



Town of Arlington, MA Redevelopment Board

Agenda & Meeting Notice August 17, 2020

This meeting is being held remotely in accordance with the Governor's March 12, 2020 Order Suspending Certain Provisions of the Open Meeting Law G.L. c. 30A, Section 20. Public comments will be accepted during the public comment periods designated in the agenda. The public may email or provide any written comments to jraitt@town.arlington.ma.us by August 17, 2020 at 12:00 p.m. If visual information is provided as part of your correspondence, the Board requests this by August 14, 2020 at 12:00 p.m.

The Arlington Redevelopment Board will meet Monday, August 17, 2020 at 7:00 PM in the **Join Zoom Meeting with audio and video by connecting using this link and Meeting ID: <https://zoom.us/j/93041375966> | Enter Meeting ID: 930 4137 5966 or join by phone with by calling: 1-646-876-9923, enter the Meeting ID 930 4137 5966 followed by "#".**

1. Public Hearings

7:00 p.m.

Docket #3602, 1207-1211 Mass Ave

Continued Public Hearing

Board will continue hearing for Special Permit Docket #3602 to review application by James F. Doherty for 1211 Mass Ave Realty Trust, at 1207-1211 Massachusetts Avenue, Arlington, MA, 02476, to construct a 50-room hotel and restaurant at 1207-1211 Massachusetts Avenue in the B2 Neighborhood Business District and B4 Vehicular Oriented Business District. The continuation of the hearing is to allow the Board to review and approve the application in accordance with the provisions of MGL Chapter 40A and the Town of Arlington Zoning Bylaw Section 3.4, Environmental Design Review.

7:30 p.m.

Docket #3631, 473 Mass Ave

Public Hearing

Board will open public hearing for Special Permit Docket #3631 to review application filed on July 21, 2020 by Gotu Hule for Acitron Cocina Mexicana, at 473 Massachusetts Avenue, in accordance with the provisions of MGL Chapter 40A § 11, and the Town of Arlington Zoning Bylaw Section 3.4, Environmental Design Review. The applicant seeks approval of signage that exceeds the size allowed for a wall sign in the B3 Village Business District. The opening of the Special Permit is to allow the Board to review the signage under Section 6.2, Signs.

- For each public hearing, applicants will be provided 5 minutes for a presentation.
- DPCD staff will be provided 3 minutes to discuss public hearing memo.

- Members of the public will be provided time to comment.
- Board members will discuss each docket and may vote.

2. Discussion: Comprehensive Permit Application at 1165R Massachusetts Avenue

8:00 p.m. Board members will discuss and may vote to provide comments to Select Board for inclusion in Town comment letter to MassHousing.

3. Meeting Minutes (7/6)

8:15 p.m. Board members will review and approve meeting minutes.

4. Open Forum

8:20 p.m. Except in unusual circumstances, any matter presented for consideration of the Board shall neither be acted upon, nor a decision made the night of the presentation. There is a three minute time limit to present a concern or request. Meeting participants will not have access to video.

5. Adjourn

Estimated 8:40 p.m. – Adjourn

6. Correspondence Received

Correspondence received from:
Town Counsel D. Heim 08132020

Correspondence received related to a specific docket can be found in the meeting materials for that docket.



Town of Arlington, Massachusetts

Public Hearings

Summary:

7:00 p.m.

Docket #3602, 1207-1211 Mass Ave

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- Board members will discuss each docket and may vote.

ATTACHMENTS:

Type	File Name	Description
Reference Material	Application_Materials_Received_8-10-20_Part_1.pdf	NEW Docket #3602 Updated Application Materials Part 1 received 08102020
Reference Material	Memo_to_ARB_re_Docket_#3602_08-10-20.pdf	NEW Memo to ARB re Docket #3602 08-10-20
Reference Material	Application_Materials_Received_8-10-20_Part_2.pdf	NEW Docket #3602 Updated Application Materials Part 2 received 08102020
Reference Material	Application_Materials_Received_8-10-20_Part_3.pdf	NEW Docket #3602 Updated Application Materials Part 3 received 08102020
Reference Material	Updated_Valet_Parking_Figure.pdf	NEW Docket #3602 Valet Parking Figure received 08102020

Reference Material	Updated_Site_Layout_Plan_C-2.pdf	NEW Docket #3602 Updated Site Layout Plan received 08102020
Reference Material	08122020_Memo_1207-1211_Mass_Ave_Study.pdf	NEW Docket #3602 DPCD Shadow Study Memo 08122020
Reference Material	1207-1211_Mass_Ave_DPCD_Shadow_Study.pdf	NEW Docket #3602 DPCD Shadow Study Graphics 08072020
Reference Material	Traffic_Impact_and_Access_Review_by_TAC_080620.pdf	NEW Docket #3602 TAC Traffic Impact and Access Review 08062020
Reference Material	081020_Letter_to_Jennifer_Raitt_re_1207-1211_Mass_Ave._-_Doherty_(2).pdf	NEW Docket #3602 Correspondence from M. O'Connor re ARB Requests received 08102020
Reference Material	081220_Letter_to_Jennifer_Raitt_re_TAC_Report_-_Doherty_(1).pdf	NEW Docket #3602 Correspondence from M. O'Connor re TAC Review received 08122020
Reference Material	Correspondence_received_from_Disability_Commission_080720.pdf	NEW Docket #3602 Correspondence from Disability Commission received 08072020
Reference Material	081320_Email_to_Jennifer_Raitt_re_Disability_Commission_email.pdf	NEW Docket #3602 Correspondence from M. O'Connor re Disability Commission Comments received 08132020
Reference Material	8.13.2020_Cover_Memo_to_ARB_re_Docket_No._3602.pdf	NEW Docket #3602 Memo from Town Counsel Cover Letter received 08132020
Reference Material	Agenda_Item_1_-_Memo_to_ARB_re_Docket_#3602_07-02-20.pdf	Memo to ARB re Docket #3602 07-02-20
Reference Material	Agenda_Item_1_-_Memo_to_ARB_re_Docket_#3602_05-14-20.doc	Memo to ARB re Docket #3602 05-14-20
		Memo to ARB re

Reference Material	Agenda_Item_1A_-_Memo_to_ARB_re_Review_of_New_Material_Submissions_01-21-20.pdf	Review of New Material Submissions 01-21-20
Reference Material	Agenda_Item_1B_-_EDR_Public_Hearing_Memo_Docket_#3602_1207-1211_Mass_Ave_Final.pdf	EDR Public Hearing Memo Docket #3602 1207-1211 Mass Ave. Final
Reference Material	Agenda_Item_1C_-_Memo_to_ARB_from_E._Zwirko_re_Special_Permit_filing_fee_08-07-19.pdf	Memo to ARB from E. Zwirko re Special Permit filing fee 08-07-19
Reference Material	Agenda_Item_1F_-_Application_Materials_Submitted_06-21-19.pdf	Application Materials Submitted 06-21-19
Reference Material	Agenda_Item_1G_-_Application_Materials_Submitted_01-21-20_-.pdf	Application Materials Submitted 01-21-20
Reference Material	3602_Plan_Set_Received_6-25-20_part_1.pdf	Docket #3602 Plan Set Received 6-25-20 Part 1
Reference Material	3602_Plan_Set_Received_6-25-20_part_2.pdf	Docket #3602 Plan Set Received 6-25-20 Part 2
Reference Material	3602_Updated_062420_1207-1211_Mass_Avenue_(Part_1).pdf	Docket #3602 Updated 062420 1207-1211 Mass. Ave. Part 1
Reference Material	3602_Updated_062420_1207-1211_Mass_Avenue_(Part_2).pdf	Docket #3602 Updated 062420 1207-1211 Mass. Ave. Part 2
Reference Material	Correspondence_received_from_DSeltzer_080720.pdf	NEW Docket #3602 Correspondence from D. Seltzer received 08072020
Reference Material	Correspondence_received_from_DSeltzer_080720_attachment.pdf	NEW Docket #3602 Correspondence from D. Seltzer Attachment received 08072020
Reference Material	Correspondence_received_from_DSeltzer_080920.pdf	NEW Docket #3602 Correspondence from D. Seltzer received 08092020
Reference Material	Correspondence_received_from_DSeltzer_080920_attachment.pdf	NEW Docket #3602 Correspondence from D. Seltzer Attachment received 08092020

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<div> <div> <div></div> <div>Reference Material</div> </div> <div>Correspondence_from_C._Knight_received_070220.pdf</div> </div>	<div>McCauley received 07022020</div>
<div> <div> <div></div> <div>Reference Material</div> </div> <div>Correspondence_from_D._Seltzer_received_05182020.pdf</div> </div>	<div>Correspondence from C. Knight received 07022020</div>
<div> <div> <div></div> <div>Reference Material</div> </div> <div>Agenda_Item_1b_Docket_3631_473_Mass_Ave.pdf</div> </div>	<div>Correspondence from D. Seltzer received 05182020</div>
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	<div>NEW Memo to ARB re Docket #3631 08-12-2020</div>

SPECIAL PERMIT - SITE PLAN REVIEW

1211 Massachusetts Avenue
Arlington, MA 02476

August 6, 2020



LINCOLN ARCHITECTS LLC
1 Mount Vernon Street, Suite 203
Winchester, MA 01890
781.721.7721

LOCUS PLAN

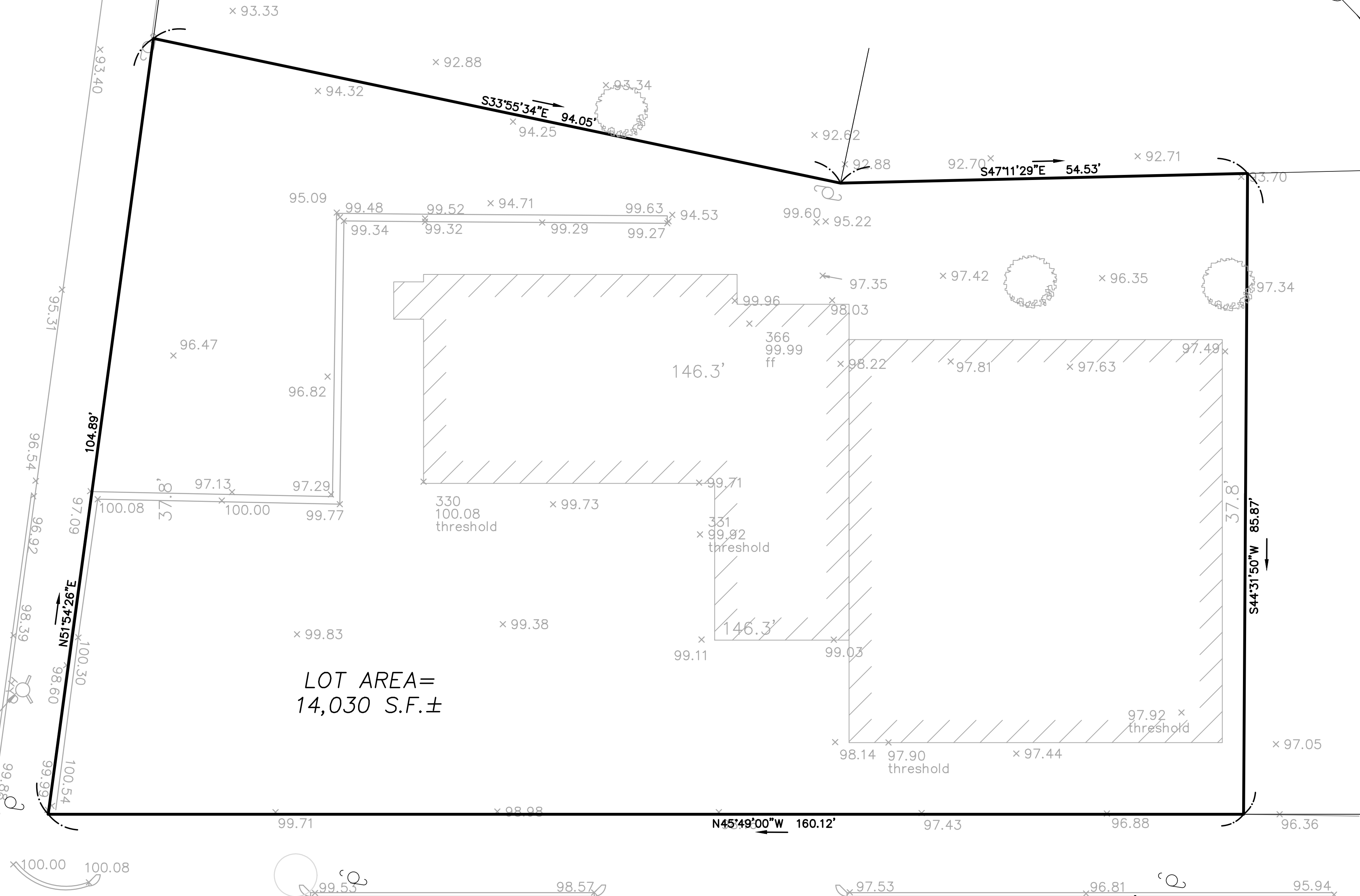


DRAWING LIST

ARCHITECTURAL	
COVER SHEET	
C-1	EXISTING CONDITION PLAN
C-2	SITE LAYOUT PLAN
C-3	GRADING PLAN
E5.1	SITE PHOTOMETRIC PLAN
E1.1	FOURTH FLOOR PHOTOMETRIC PLAN
L1.1	LANDSCAPE PLAN
A0.1	RENDERING IMAGE / VIEW FROM MASSACHUSETTS AVENUE
A0.2	RENDERING IMAGE / BIRDS EYE VIEW FROM MASSACHUSETTS AVENUE
A0.3	RENDERED IMAGE / SET IN PHOTO-VIEW FROM MASSACHUSETTS AVENUE I
A0.4	RENDERED IMAGE / SET IN PHOTO-VIEW FROM MASSACHUSETTS AVENUE II
A0.5	RENDERED IMAGE / SET IN PHOTO-VIEW FROM CLARK STREET
A1.1	LOWER LEVEL/MAIN LEVEL FLOOR PLAN
A1.2	SECOND & THIRD FLOOR PLAN/FOURTH FLOOR PLAN
A3.1	ROOF PLAM / BUILDING SECTION
A4.1	BUILDING ELEVATIONS
A4.2	BUILDING ELEVATIONS
A5.1	EXISTING BUILDING - SHADOW STYDY/SUMMER SOLSTICE
A5.2	EXISTING BUILDING - SHADOW STYDY/WINTER SOLSTICE
A5.3	EXISTING BUILDING - SHADOW STYDY/AUTUMN EQUINOX
A5.4	EXISTING BUILDING - SHADOW STYDY/SPRING EQUINOX
A6.1	PROPOSED BUILDING - SHADOW STYDY/SUMMER SOLSTICE
A6.2	PROPOSED BUILDING - SHADOW STYDY/WINTER SOLSTICE
A6.3	PROPOSED BUILDING - SHADOW STYDY/AUTUMN EQUINOX
A6.4	PROPOSED BUILDING - SHADOW STYDY/SPRING EQUINOX

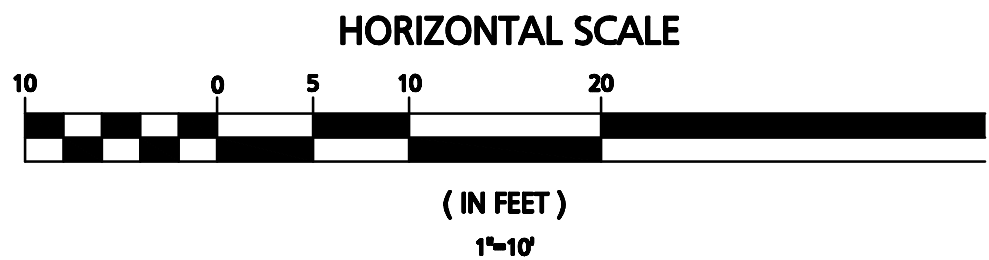
BENCHMARK: BURYBOLT
HYDRANT = 101.07
(ASSUMED DATUM)

CLARK STREET



LOT AREA=
14,030 S.F.±

MASSACHUSETTS AVENUE



CURRENT OWNER: TOWN OF ARLINGTON
TITLE REFERENCE: BK 5873 PG 485
PLAN REFERENCE: BK 121 PG 19

THIS PLAN WAS PREPARED WITHOUT A FULL TITLE EXAMINATION AND IS NOT A CERTIFICATION TO THE TITLE OF THE LANDS SHOWN. THE OWNERSHIP OF ABUTTING PROPERTIES IS ACCORDING TO ASSESSORS RECORDS. THIS PLAN MAY OR MAY NOT SHOW ALL ENCUMBRANCES WHETHER EXPRESSED, IMPLIED OR PRESCRIPTIVE.

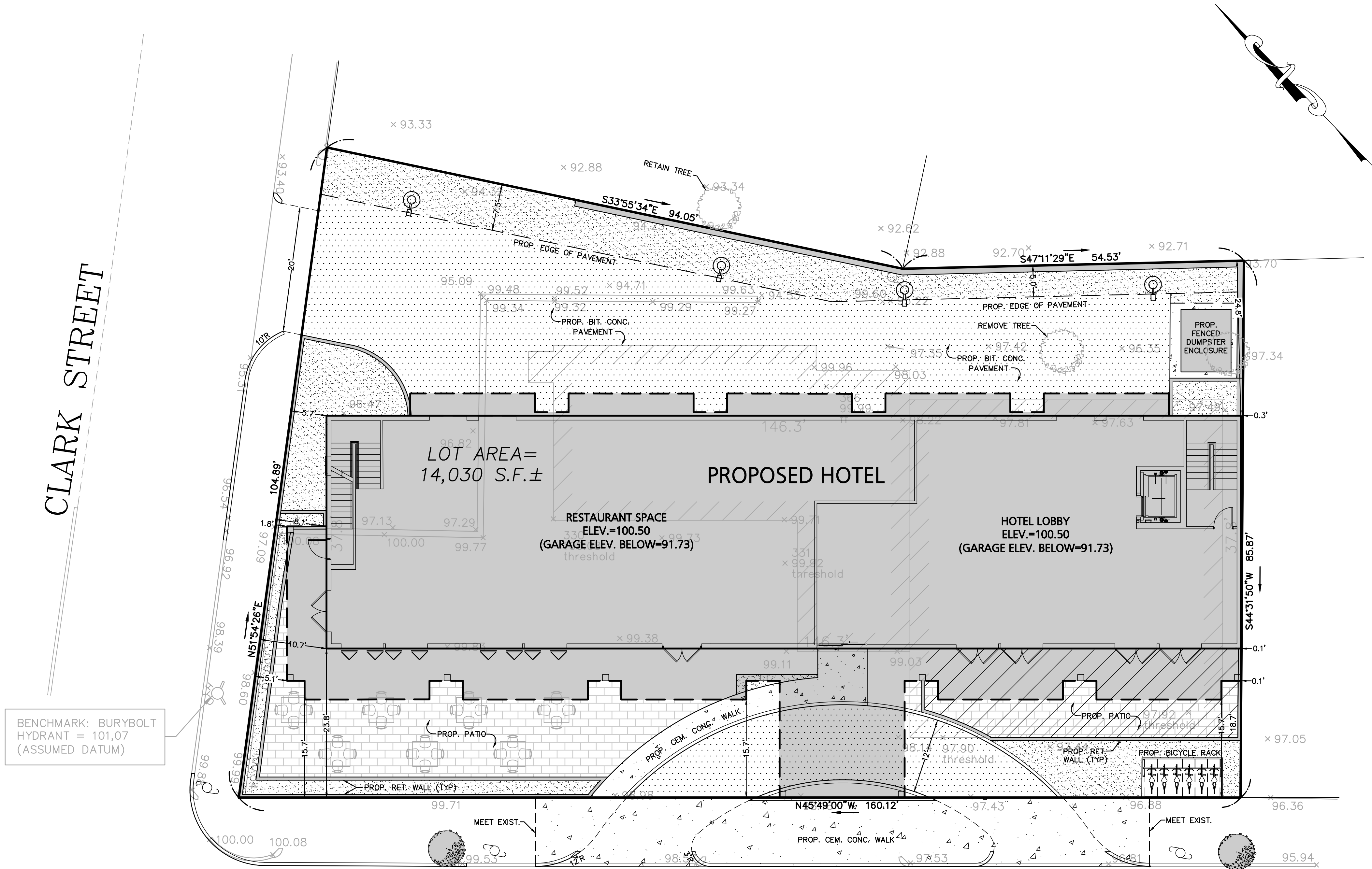
SURVEYOR'S CERTIFICATION:
TO: JIM DOHERTY

I CERTIFY THAT THIS PLAN AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE GENERALLY ACCEPTABLE PRACTICES OF LAND SURVEYORS IN THE COMMONWEALTH OF MASSACHUSETTS FOR A PLAN AND SURVEY OF THIS TYPE. THIS CERTIFICATION IS MADE ONLY TO THE ABOVE NAMED INDIVIDUAL(S) AND IS NULL AND VOID UPON ANY FURTHER CONVEYANCE OF THIS PLAN.

THE FIELD WORK WAS COMPLETED ON: NOVEMBER 19, 2018



PREPARED FOR:	Lincoln Architects LLC 1 Mount Vernon Street, Suite 203 Winchester, Massachusetts 01890		PROJECT:	Proposed Site Plan 1211 Massachusetts Avenue (Parcel ID: 58-11-1 & 57-4-14) Arlington, Massachusetts	
	DWG. NO. C-1	DRAWING TITLE: Existing Conditions Plan		PROJECT # 20-59805 SCALE: AS NOTED DESIGN BY: Eric Bradanese, P.E.	DATE: August 5, 2020 DWG FILE NAME: 20-59805.dwg CHECKED BY: Richard A. Salvo, P.E.
 Engineering Alliance, Inc. Civil Engineering & Land Planning Consultants 194 Central Street Saugus, MA 01906 Tel: (781) 231-1349 Fax: (781) 417-0020			PREPARED BY:	 MEDFORD ENGINEERING & SURVEY ANGELO B. VENEZIANO ASSOCIATES 15 HALL STREET, MEDFORD, MA 02155 781-396-4466 Fax: 781-396-8052	
				DATE	DESCRIPTION OF REVISION



BENCHMARK: BURYBOLT
HYDRANT = 101.07
(ASSUMED DATUM)

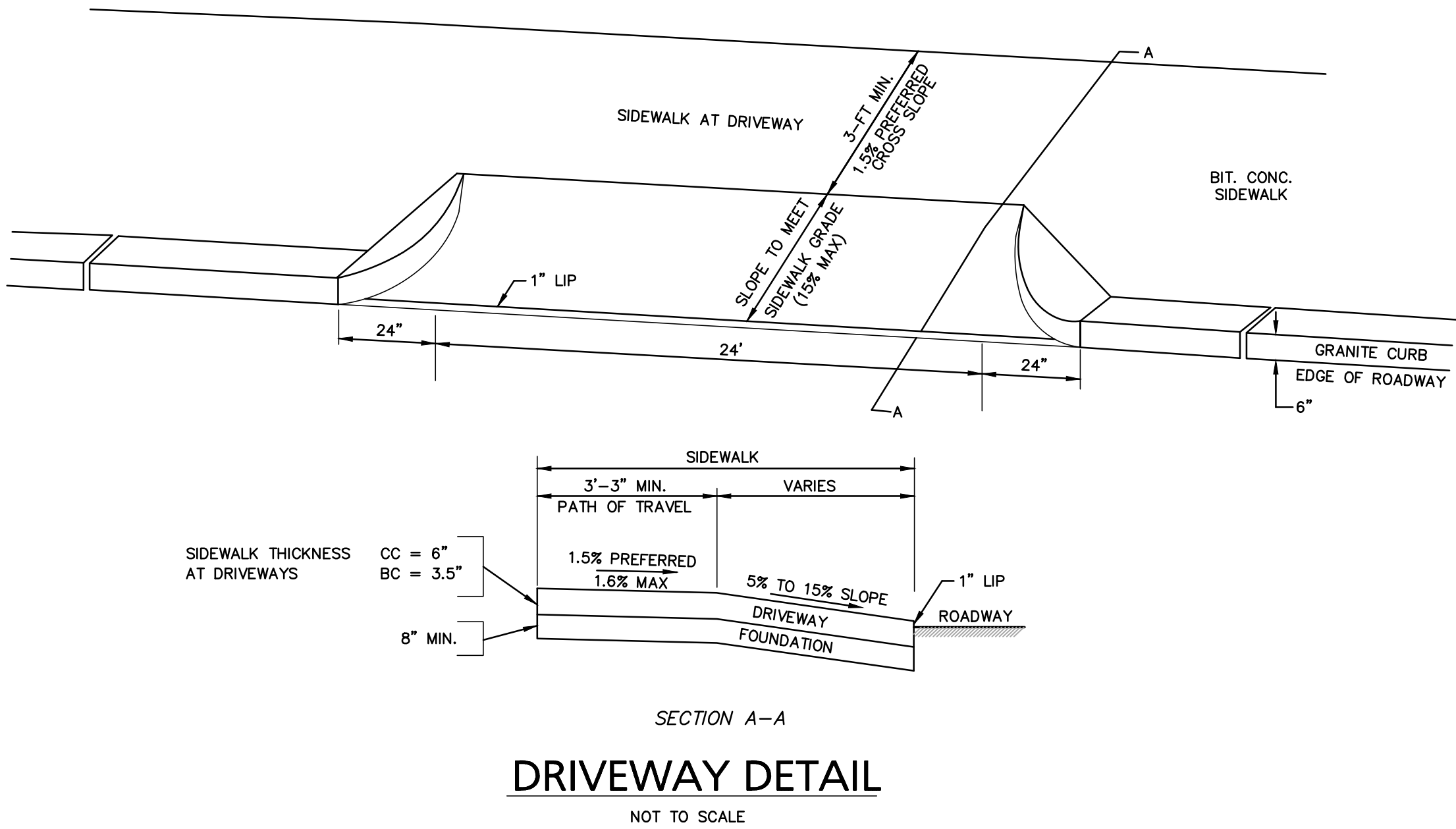
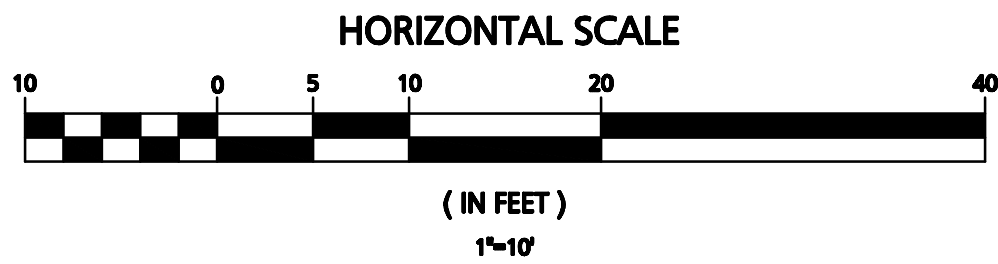
LEGEND - SITE LAYOUT PLAN	
PROPERTY LINE	
PROPOSED CURB	
PROPOSED BUILDING	
PROPOSED BUILDING OVERHANG	
PROPOSED BIT. CONC.	
PROPOSED LANDSCAPING	
PROPOSED CEM. CONC.	
PROPOSED PERV. PAVER	
PROPOSED WALL	

PARKING CALCULATIONS		
COMPONENT	REQUIRED	PROPOSED
HOTEL (50 ROOMS)	50 SPACES (1 SPACE PER ROOM) 50 ROOMS x 1 spaces = 50 Spaces	24 SPACES (Garage Spaces)
TOTAL	50 SPACES	24 SPACES

NOTE:
1A. RESTAURANT USE UNDER 3,000 S.F. DOES NOT REQUIRE PARKING
2A. STANDARD PARKING SPACES ARE 9'X18'
3A. RELIEF REQUESTED TO ALLOW 24 SPACES WHERE 50 ARE REQUIRED.

OPEN SPACE CALCULATION	
GROSS FLOOR AREA = 23,135 S.F.	
TOTAL OPEN SPACE = 4,492± S.F.	
19.4% OPEN SPACE	
BREAKDOWN OF OPEN SPACE:	
LANDSCAPED: 1,933 S.F.	
PATIO: 2,315 S.F.	
CEM. CONC. SIDEWALK: 244 S.F.	

MASSACHUSETTS AVENUE



PREPARED BY:

PROJECT: Proposed Site Plan
1211 Massachusetts Avenue
(Parcel ID: 58-11-1 & 57-4-14)
Arlington, Massachusetts

DESIGN BY: Eric Bradanes, P.E.

DATE: August 5, 2020

DWG FILE NAME: 20-59805.dwg

CHECKED BY: Richard A. Salvo, P.E.

PROJECT # 20-59805

SCALE: AS NOTED

Professional Engineer for
Engineering Alliance, Inc.

PREPARED FOR:

Lincoln Architects LLC
1 Mount Vernon Street, Suite 203
Winchester, Massachusetts 01890

DWG. NO. C-2

DRAWING TITLE:

Site Layout Plan

DESCRIPTION OF REVISION

DATE



Consultants



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These drawings are protected by Federal Copyright Laws. Any use of
the information contained herein is prohibited without prior
written consent of Lincoln Architects LLC and represents a violation of
Federal laws subject to the prescribed penalties.

Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

Scale: 3/32" = 1'-0"

LIGHTING FIXTURE SCHEDULE							
TYPE	MANUFACTURER	CATALOGUE #	LAMPING			MOUNTING	REMARKS
			TYPE	WATTAGE	QUANTITY		
AA	MCGRAW EDISON	GLEON-AF-01-LED-E1-SL4-HSS	LED	59W		POLE	MOUNTED ON 10'-0" POLE W/ 2'-0" CONCRETE BASE
BB	MCGRAW EDISON	GLEON-AF-01-LED-E1-SL4-HSS	LED	59W		POLE	MOUNTED ON 10'-0" POLE W/ 2'-0" CONCRETE BASE
CC	HALO	HC420D010-HM412835-41MDC	LED	20		RECESSED	RECESSED CANOPY DOWNLIGHT

Date Issued
06/23/20

ES.1



1308 GRAFTON STREET
WESTER, MASSACHUSETTS 01604

[illegible]

Scale: 3/16" = 1'-0"

[illegible]

Drawing Scale

Deanna B.

Checked By _____

Date Issued _____

[illegible]



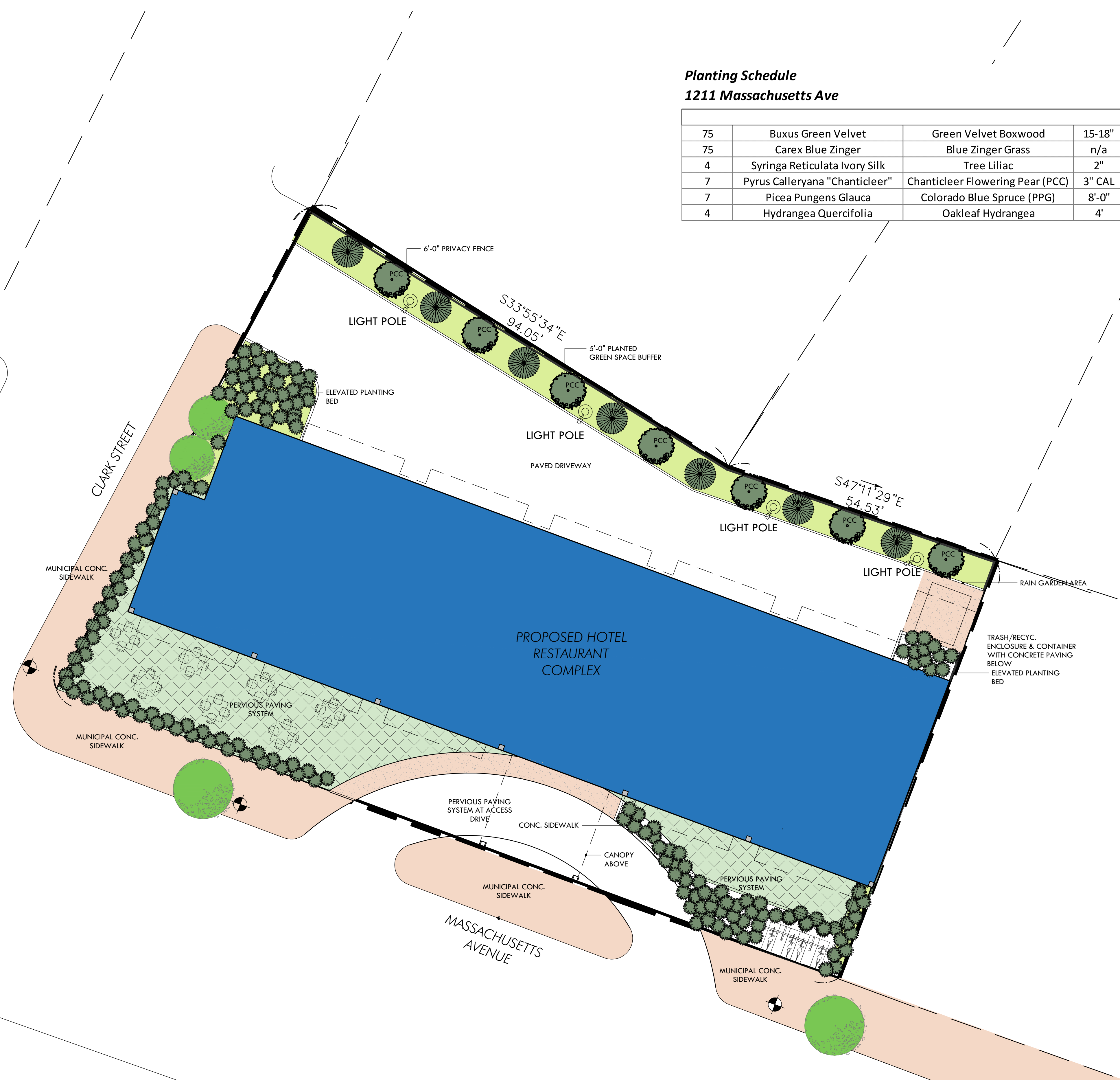
Revisions

LANDSCAPE PLAN

Date Issued
08/06/2010

L1.2

75	Buxus Green Velvet	Green Velvet Boxwood	15-18"	Front
75	Carex Blue Zinger	Blue Zinger Grass	n/a	Front
4	Syringa Reticulata Ivory Silk	Tree Lilac	2"	Rear
7	Pyrus Calleryana "Chanticleer"	Chanticleer Flowering Pear (PCC)	3" CAL	Rear
7	Picea Pungens Glauca	Colorado Blue Spruce (PPG)	8'-0"	Rear
4	Hydrangea Quercifolia	Oakleaf Hydrangea	4'	side





Consultants

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written consent of Lincoln Architects LLC and represents a violation of
Federal laws subject to the prescribed penalties.

Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

RENDERING STREET VIEW

Project Number
2017.032

Drawing Scale
3/32"=1'-0"

Drawn By
GMC

Checked By
GMc

Date Issued
08/06/20

A0.1



CURRENT SUBMISSION



PREVIOUS SUBMISSION

Consultants

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Federal laws subject to the prescribed penalties.

Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

RENDERING
BIRDS EYE VIEW

Project Number
2017.032

Drawing Scale
3/32"=1'-0"

Drawn By
GMc

Checked By
GMc

Date Issued
08/06/20

A0.2



Consultants

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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

RENDERING
STREET VIEW #1

Project Number
2017.032

Drawing Scale
N.T.S.

Drawn By
GMc

Checked By
GMc

Date Issued
08/06/20

A0.3



Consultants

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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

RENDERING
STREET VIEW #2

Project Number
2017.032

Drawing Scale
N.T.S

Drawn By
GMc

Checked By
GMc

Date Issued
08/06/20

A0.4



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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

RENDERING
STREET VIEW #3
CLARK ST

Project Number
2017.032

Drawing Scale
N.T.S

Drawn By
GMc

Checked By
GMc

Date Issued
08/06/20

A0.5



Town of Arlington, Massachusetts
Department of Planning & Community Development
730 Massachusetts Avenue, Arlington, Massachusetts 02476

Public Hearing Memorandum

The purpose of this memorandum is to provide the Arlington Redevelopment Board and public with technical information and a planning analysis to assist with the regulatory decision-making process.

To: Arlington Redevelopment Board

From: Jennifer Raitt, Secretary Ex Officio

Subject: Environmental Design Review, 1207-1211 Massachusetts Avenue, Arlington, MA
Docket #3602

Date: August 12, 2020

This memo is provided as an update to the last memo provided on May 14, 2020. The following items have been updated pursuant to this application:

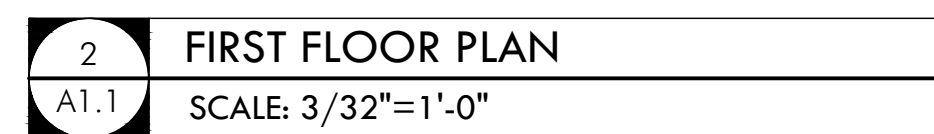
1. Truck Turning Movement prepared by Engineering Alliance, Inc. illustrating turning movements of a front and rear loading garbage truck at the Clark Street entry point.
2. Updated drawing set by Lincoln Architects LLC including updated roof section, building elevations with section views, site plans, floor plans, building materials, and shadow studies.
3. Alternative fourth floor plan illustrating a roof garden and alternate roof and fourth floor view.
4. Shadow study conducted by the Department of Planning and Community Development including accompanying memo.
5. Memo from Mary O'Connor outlining the updated submittals and addressing outstanding issues pursuant to prior Board requests and public comments.



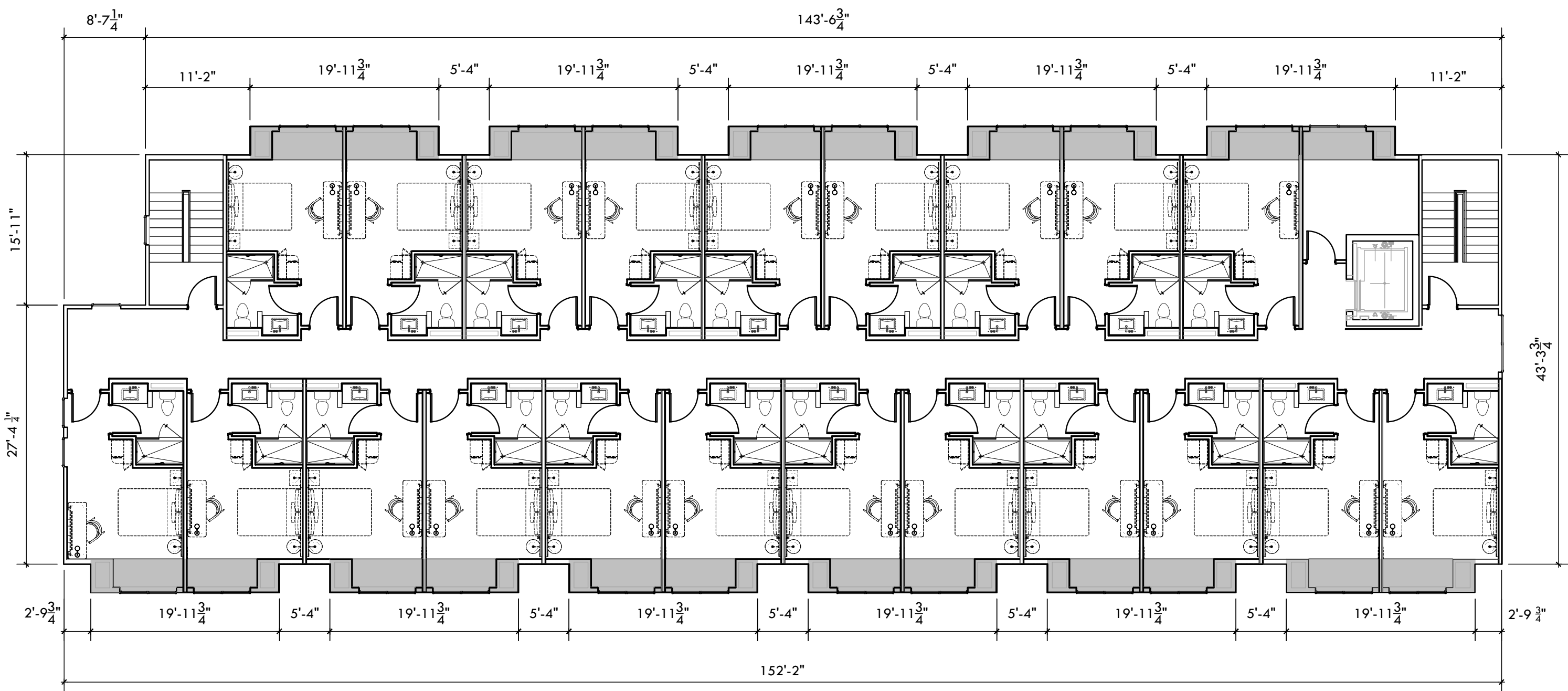
Revisions

LOWER LEVEL FIRST FLOOR FLOOR PLANS

A1.1



GROSS FLOOR AREA FOR THE
FIRST FLOOR = 5,416 sq. ft.



1

A1.2

SECOND & THIRD FLOOR PLAN

SCALE: 3/32"=1'-0"

GROSS FLOOR AREA FOR THE
SECOND FLOOR = 6,457 sq. ft.

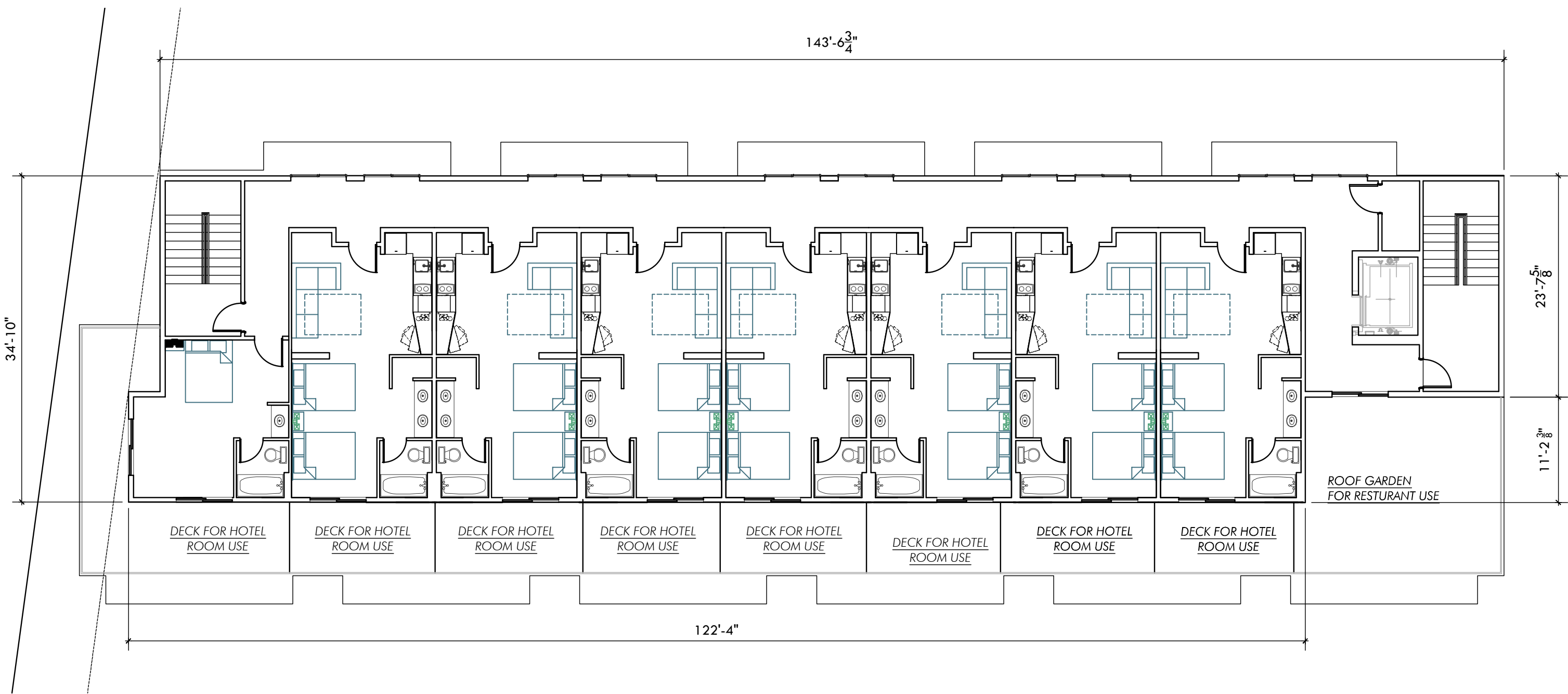
GROSS FLOOR AREA FOR THE
THIRD FLOOR = 6,457 sq. ft.

Consultants

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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA



2

A1.2

FOURTH FLOOR PLAN

SCALE: 3/32"=1'-0"

GROSS FLOOR AREA FOR THE
FOURTH FLOOR = 4,805 sq. ft.

SECOND & THIRD FLOOR PLAN
FOURTH FLOOR PLAN

Project Number
2017.032

Drawing Scale
3/32"=1'-0"

Drawn By
GMc

Checked By
GMc

Date Issued
08/06/20

A1.2

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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

ROOF PLAN
BUILDING SECTION

Project Number
2017.032

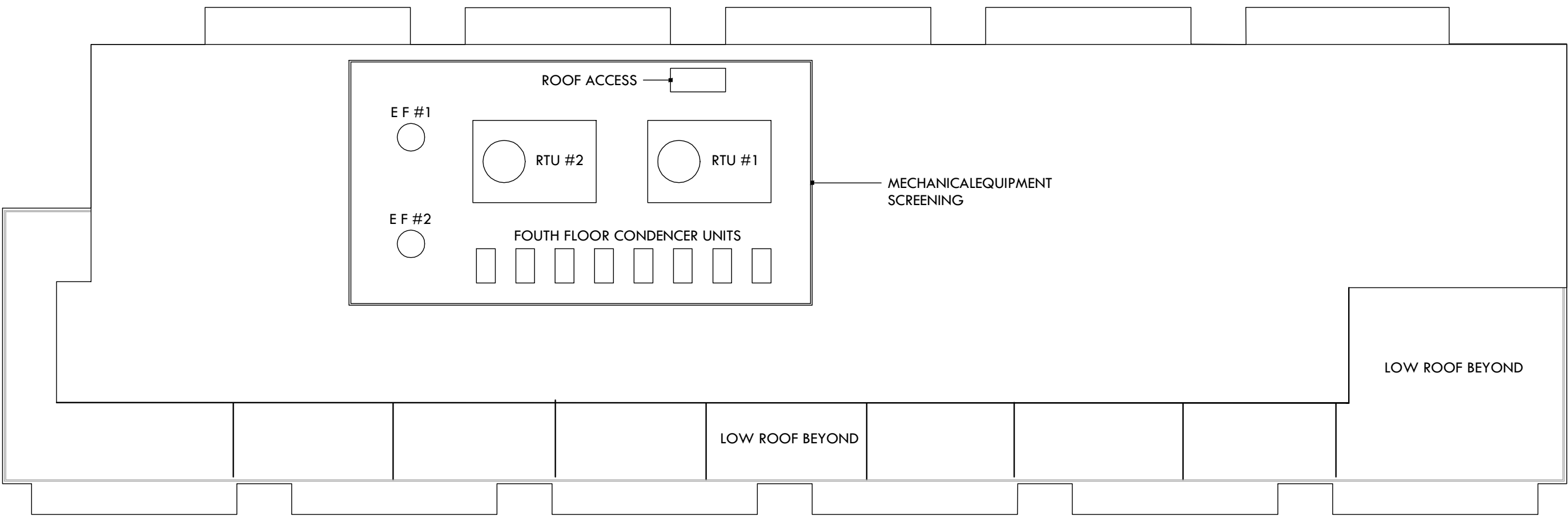
Drawing Scale
3/32"=1'-0"

Drawn By
GMc

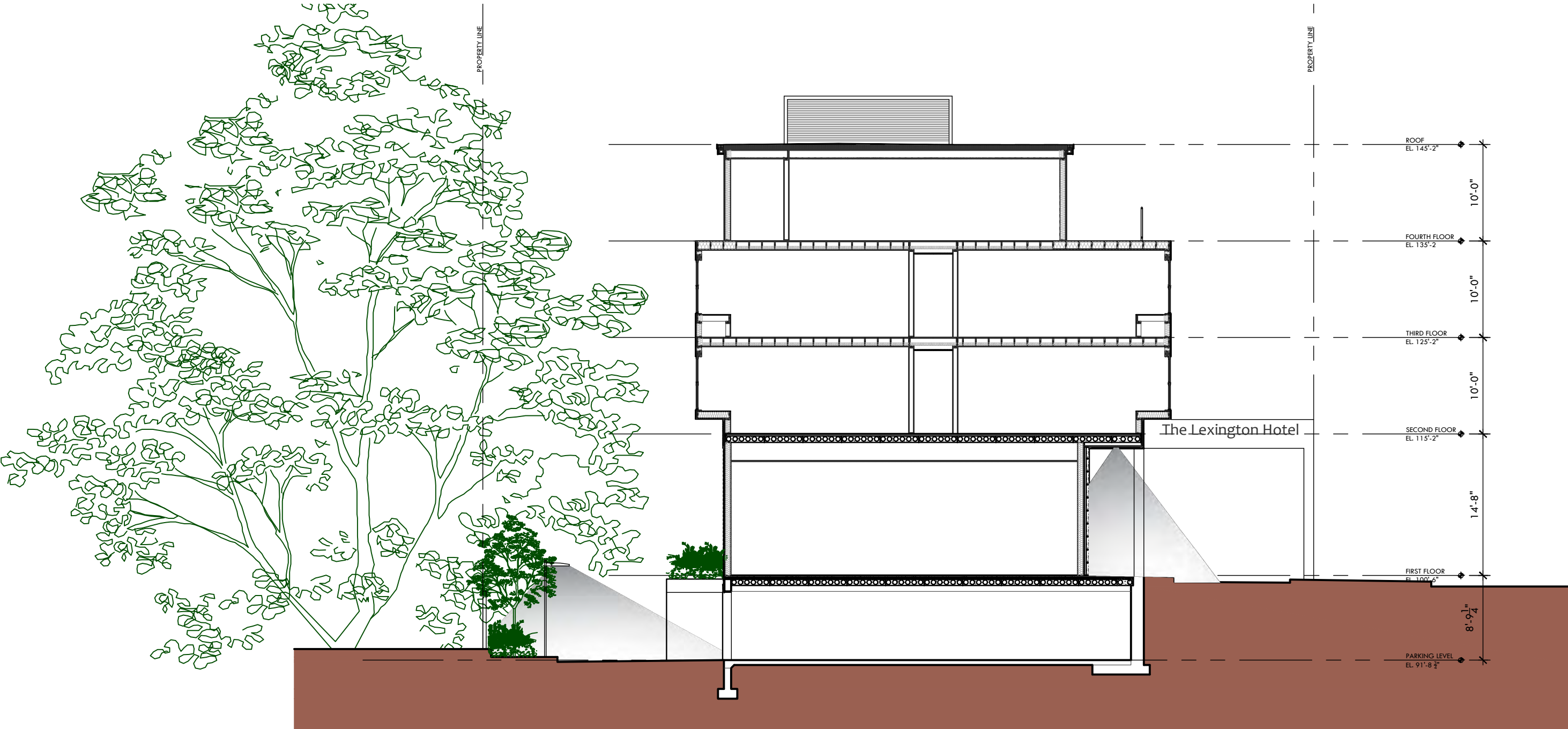
Checked By
GMc

Date Issued
08/06/20

A3.1



1 ROOF PLAN
A3.1 SCALE: 3/32"=1'-0"



2 BUILDING SECTION
A3.1 SCALE: 3/32"=1'-0"

Exterior Cover Sample list					
Location	Style	Type	Manufacturer	Website	
First Level Front / R Side	narutal stone	Cottonwood Bottom-Honed	EarthWorks	earthworkstone.net	
Upper Two Floors Front/ R. Side	Brick	Full range wire cut	General Shale	generalshale.com	
Rear and right & left sides	clapboard	Hardie plank Hz5	James Hardie	jameshardie.com	
Bay windows	fiber cement	Nichiboard Smooth	Nichiha	nichiha.com	

LINCOLN
Architects LLC

One Mount Vernon Street, Suite 203
Winchester, Massachusetts 01890

T 781.721.7721

F 781.721.0005

www.lincolnarc.com

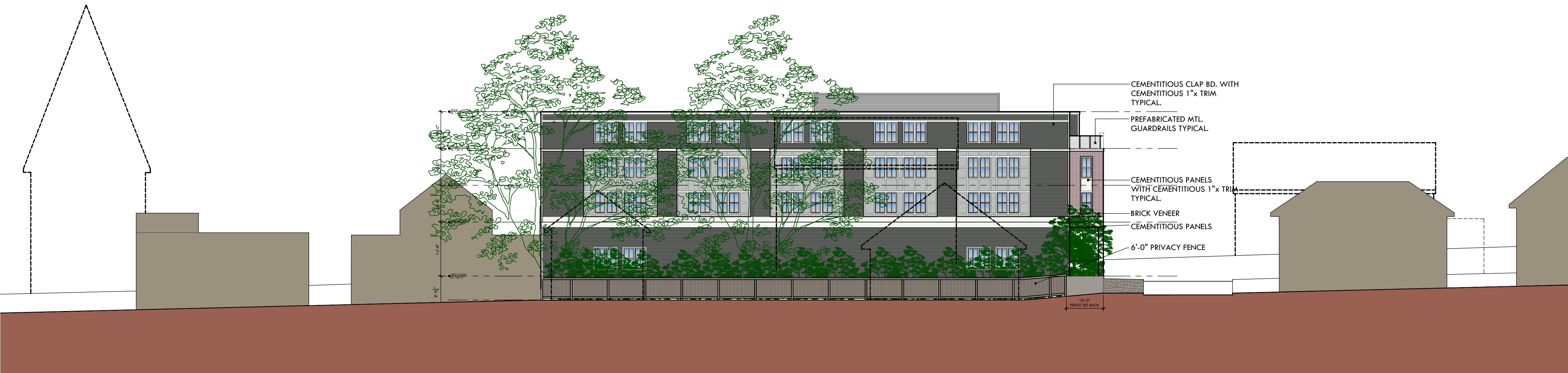


1

BUILDING ELEVATIONS-FRONT

A4.1

SCALE: 1/16"=1'-0"



2

BUILDING ELEVATIONS- REAR

A4.1

SCALE: 1/16"=1'-0"

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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

BUILDING ELEVATIONS

Project Number
2017.032

Drawing Scale
1/8"=1'-0"

Drawn By
GMc

Checked By
GMc

Date Issued
08/06/20

A4.1



9:00 AM



12:00 PM



3:00 PM



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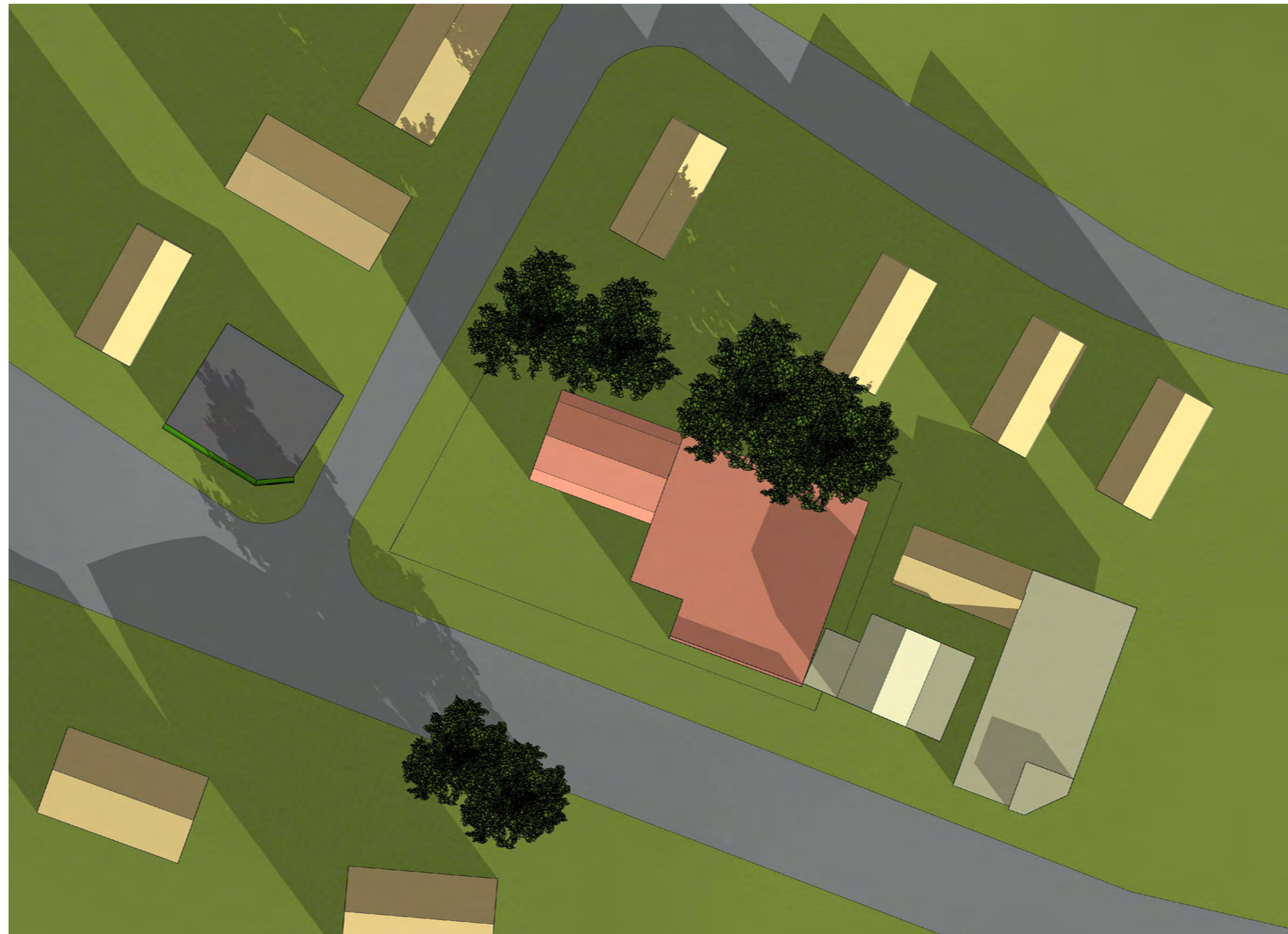
Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SHADOW STUDY
EXISTING CONDITIONS
SUMMER SOLSTICE

Project Number
2017.032
Drawing Scale
N.T.S.
Drawn By
GMe
Checked By
GMe
Date Issued
12/12/19

A5.1



9:00 AM



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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SHADOW STUDY
EXISTING CONDITIONS
WINTER SOLSTICE

Project Number
2017.032
Drawing Scale
N.T.S.
Drawn By
GMe
Checked By
GMe
Date Issued
12/12/19

A5.2



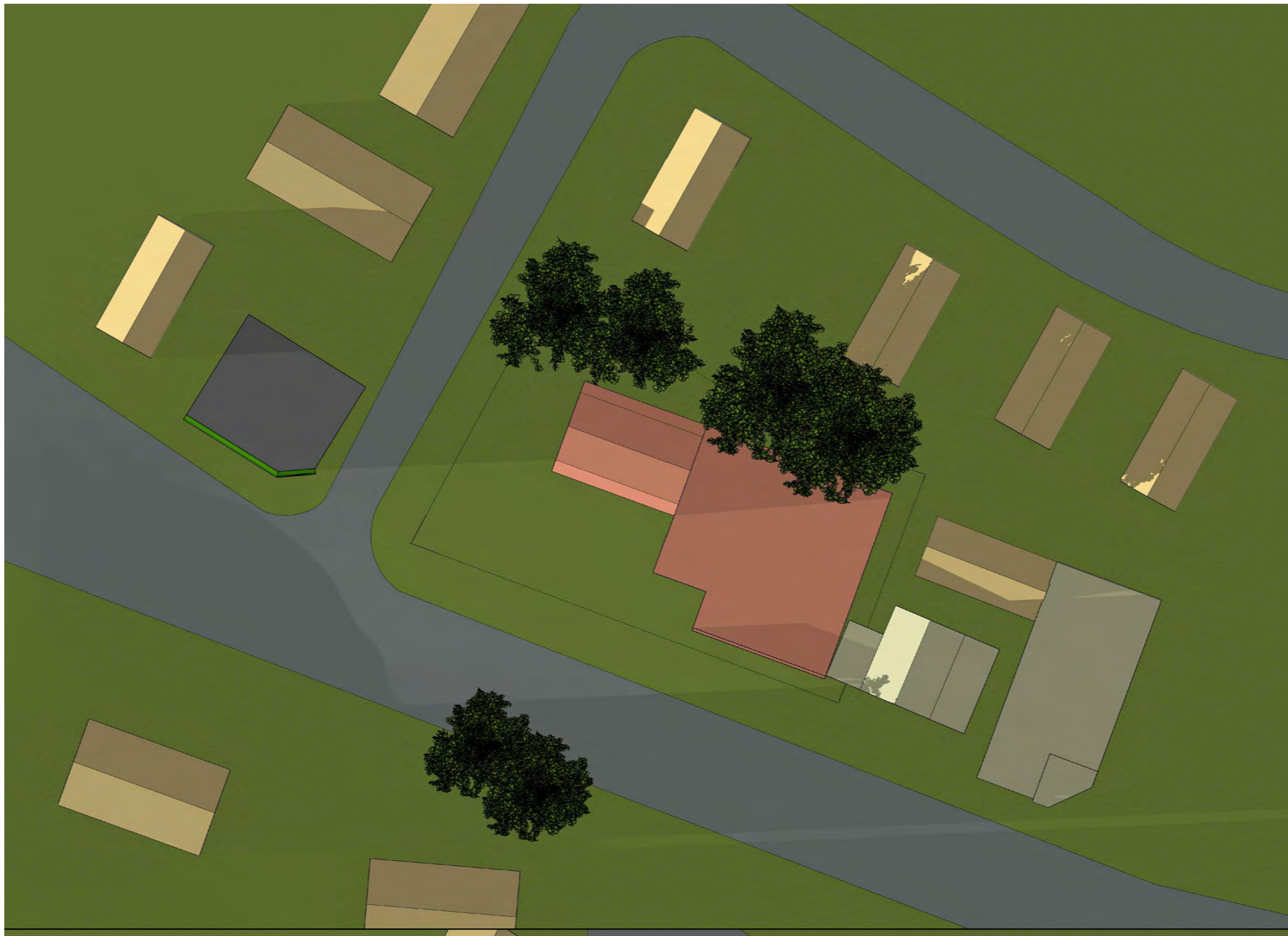
9:00 AM



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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SHADOW STUDY
EXISTING CONDITIONS
AUTUMN EQUINOX

Project Number
2017.032

Drawing Scale
N.T.S.

Drawn By
GMe

Checked By
GMe

Date Issued
12/12/19

A5.3



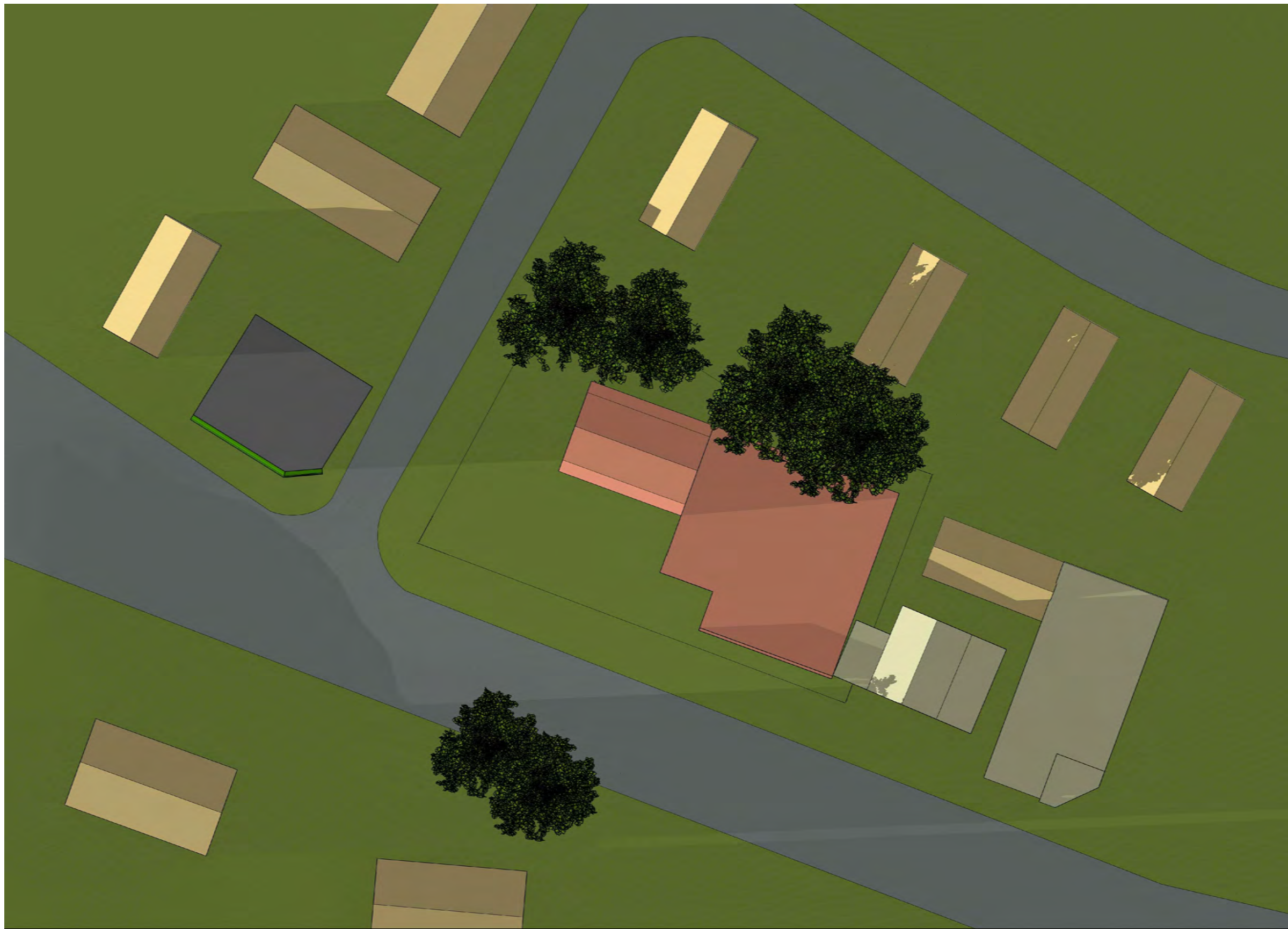
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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SHADOW STUDY
EXISTING CONDITIONS
SPRING EQUINOX

Project Number
2017.032

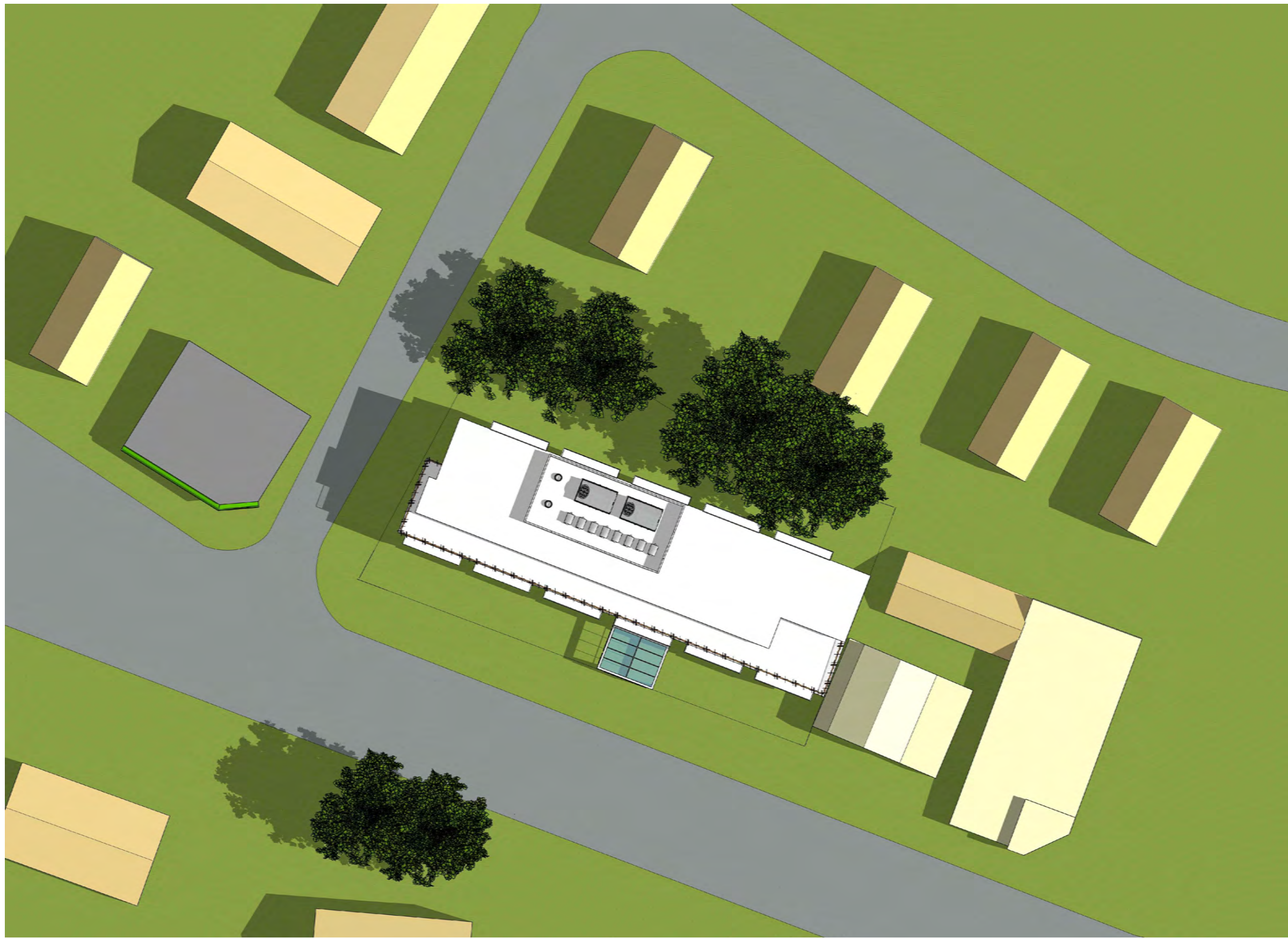
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Drawn By
GMe

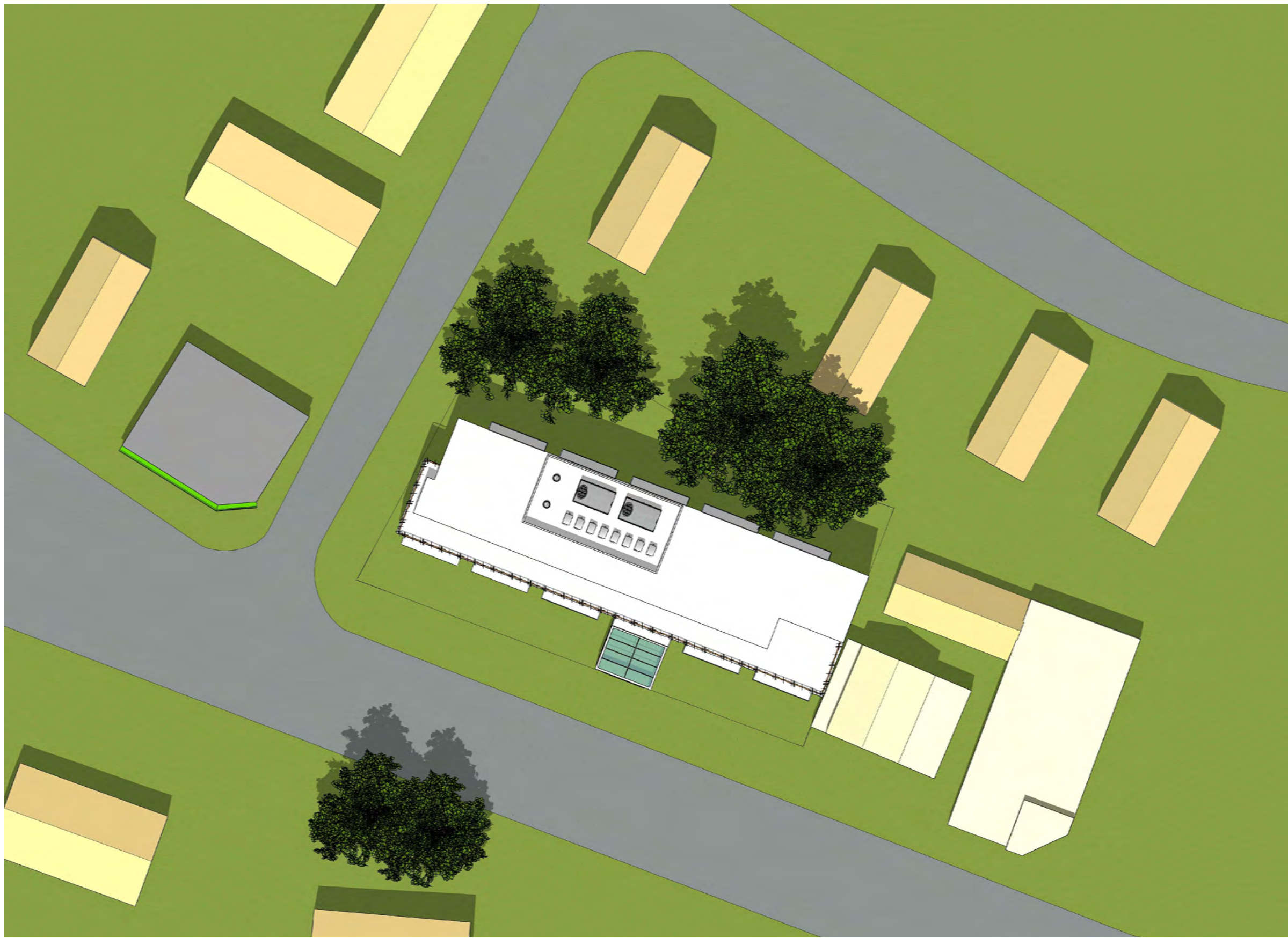
Checked By
GMe

Date Issued
12/12/19

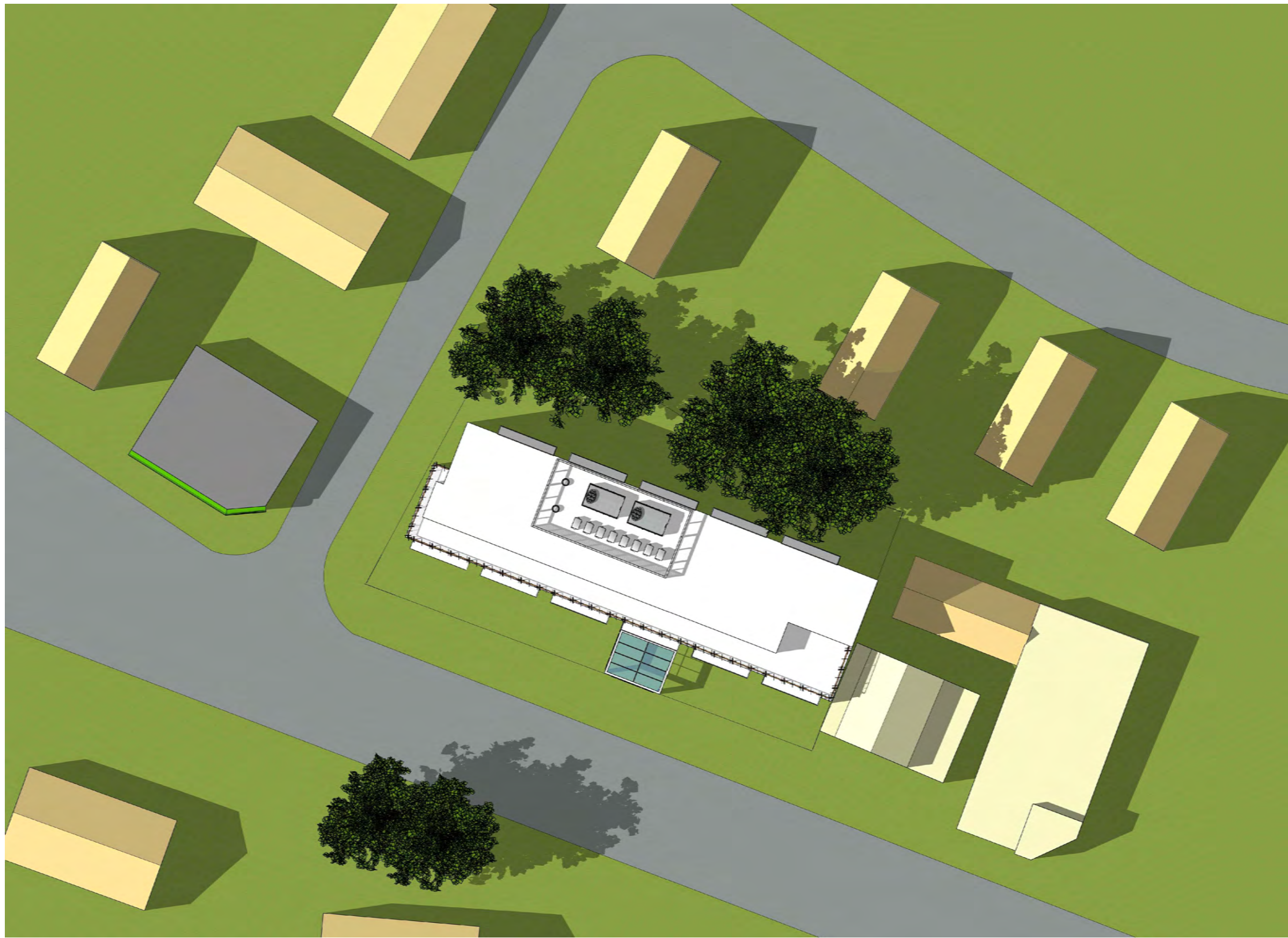
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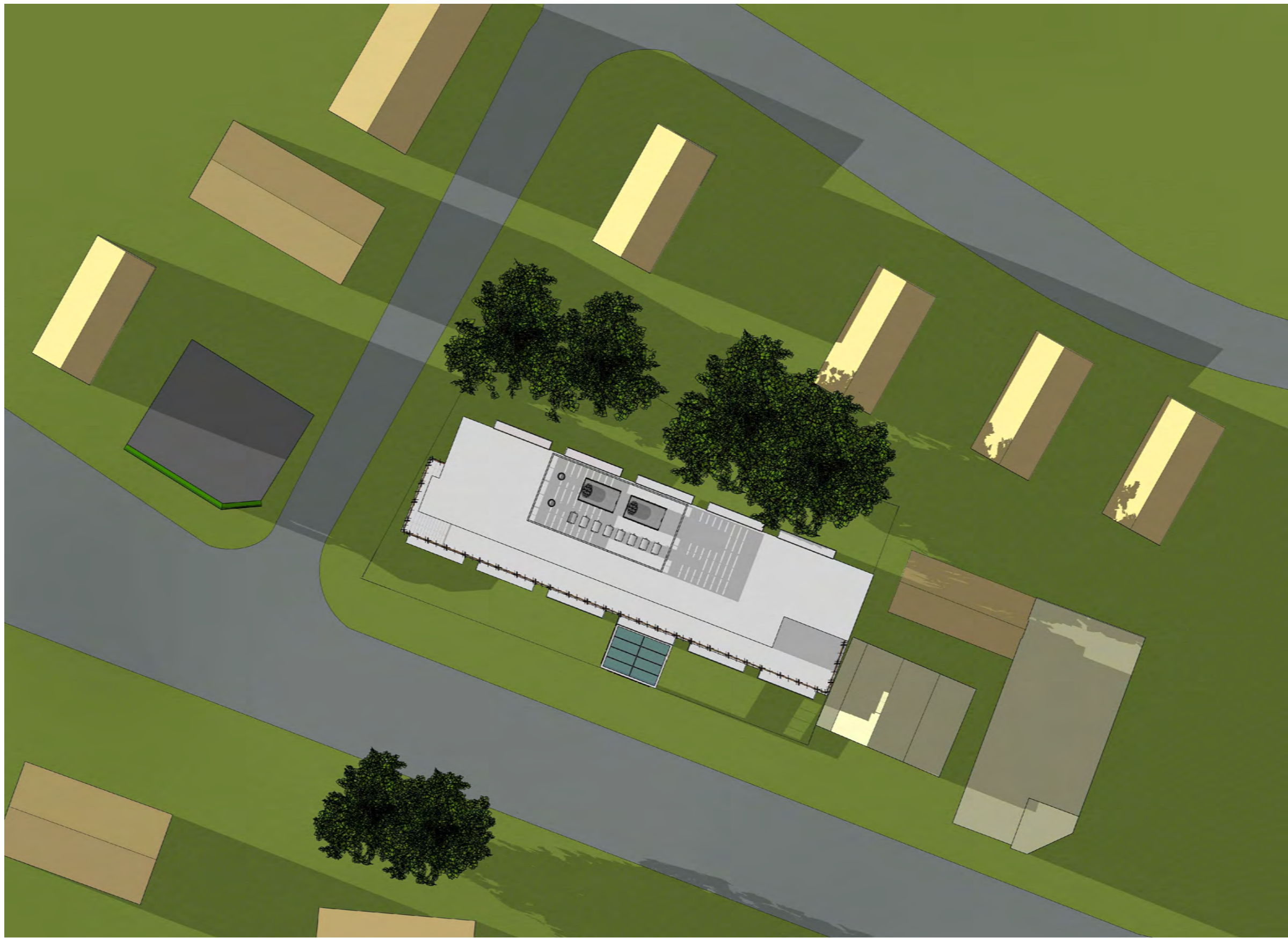
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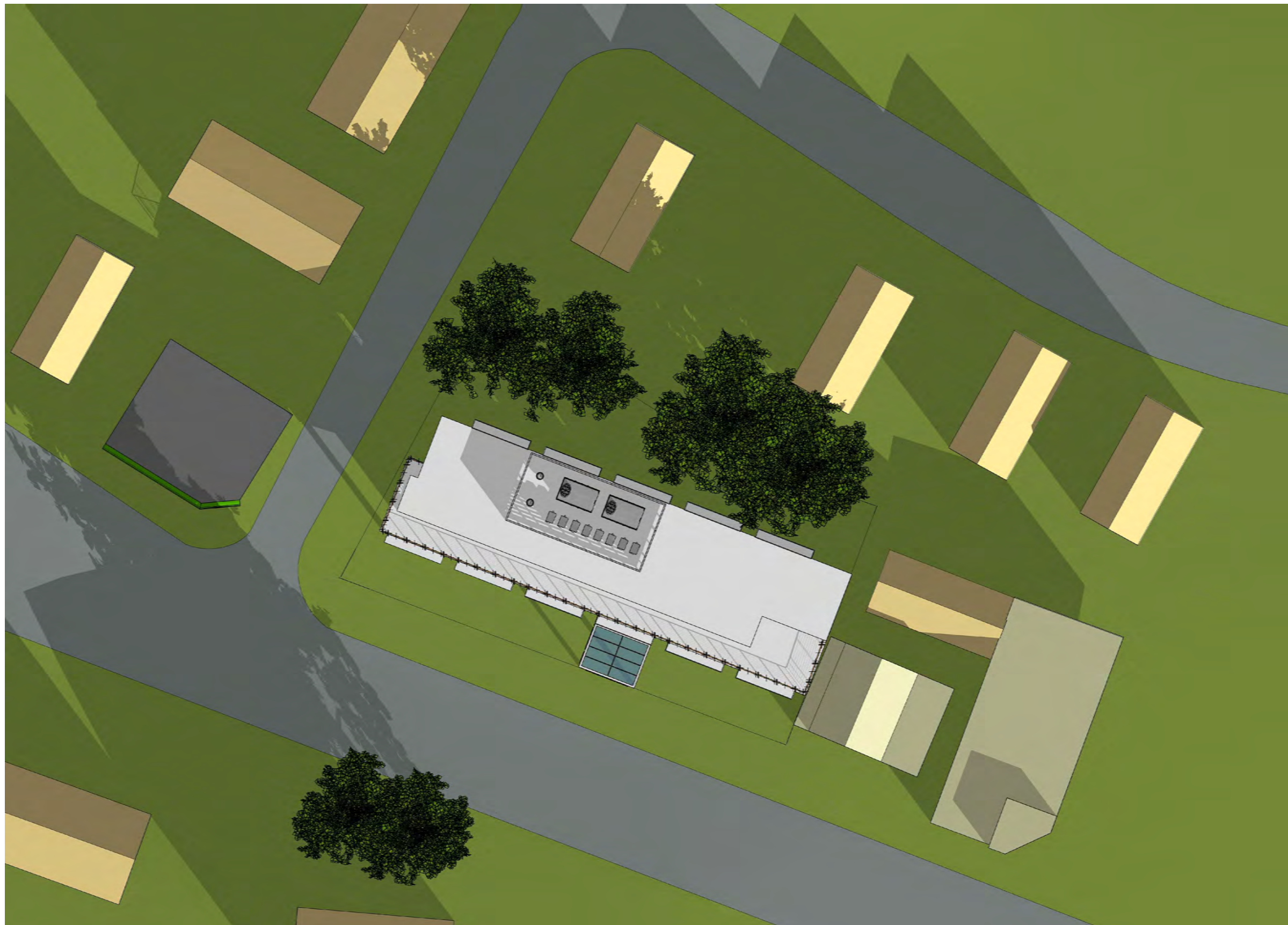
Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SHADOW STUDY
PROPOSED BUILDING
SUMMER SOLSTICE

Project Number
2017.032
Drawing Scale
N.T.S.
Drawn By
GMe
Checked By
GMe
Date Issued
06/23/20

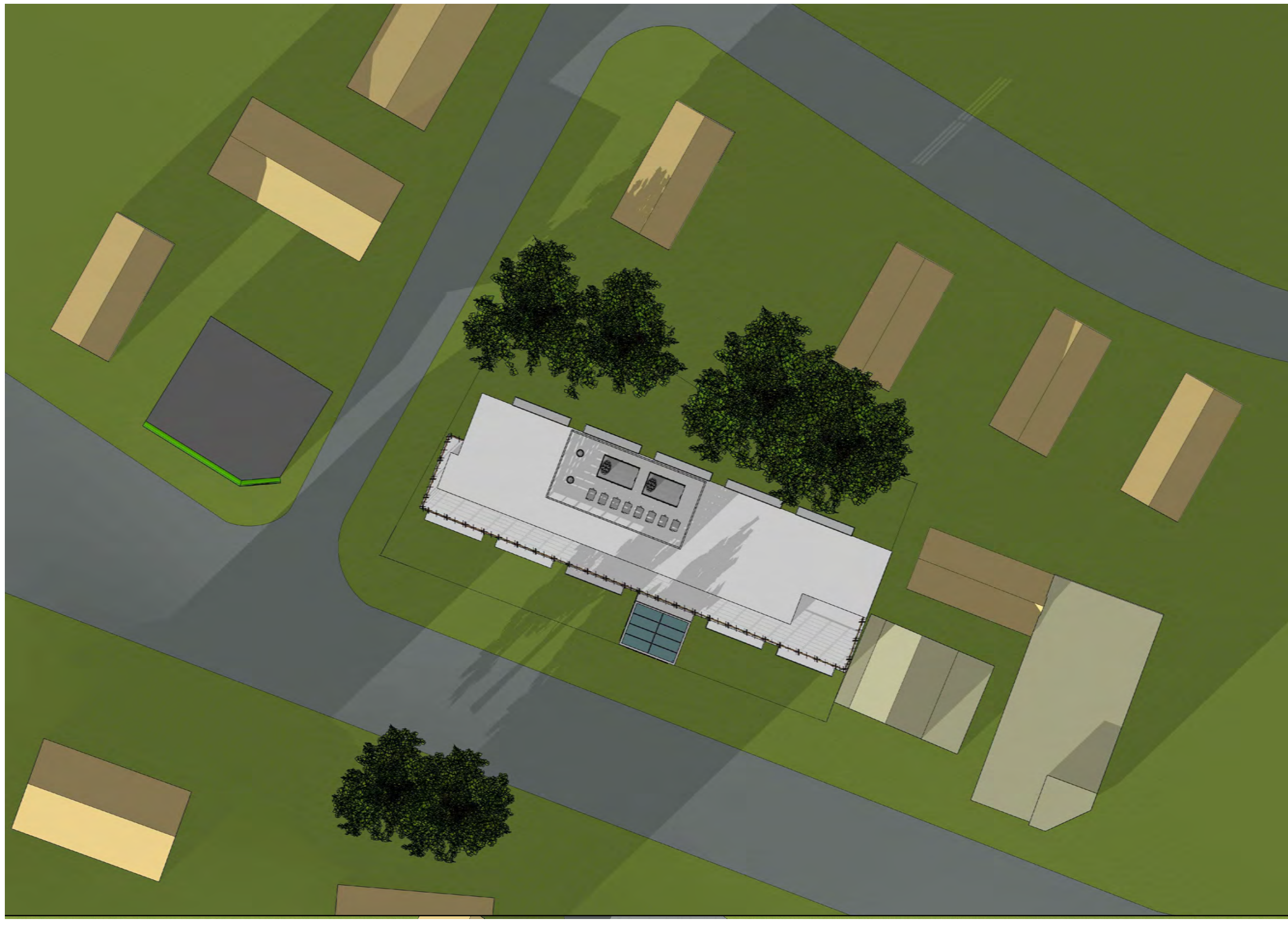
A6.1



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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SHADOW STUDY
PROPOSED BUILDING
WINTER SOLSTICE

Project Number
2017.032

Drawing Scale
N.T.S.

Drawn By
GMc

Checked By
GMc

Date Issued
06/23/20

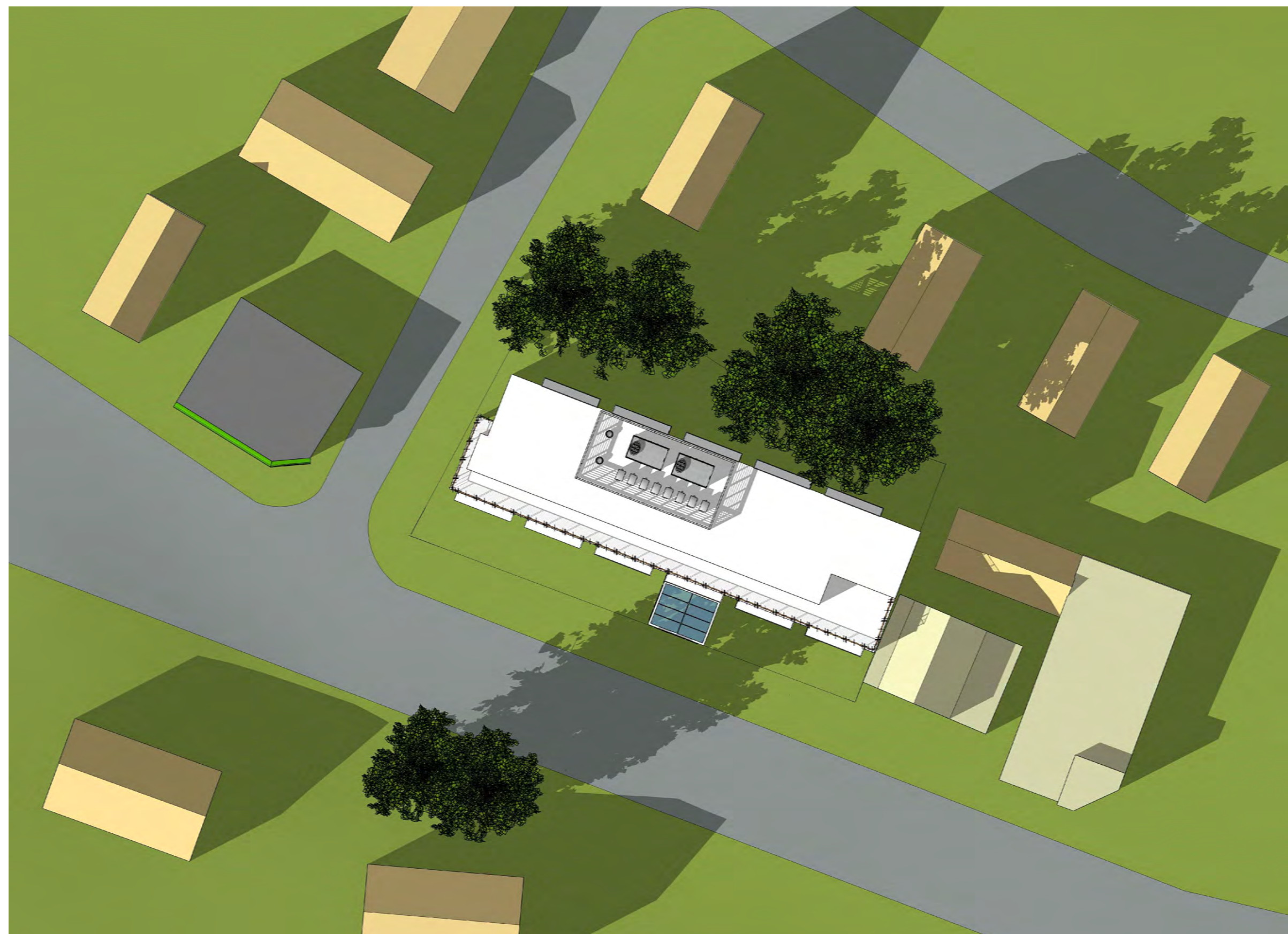
A6.2



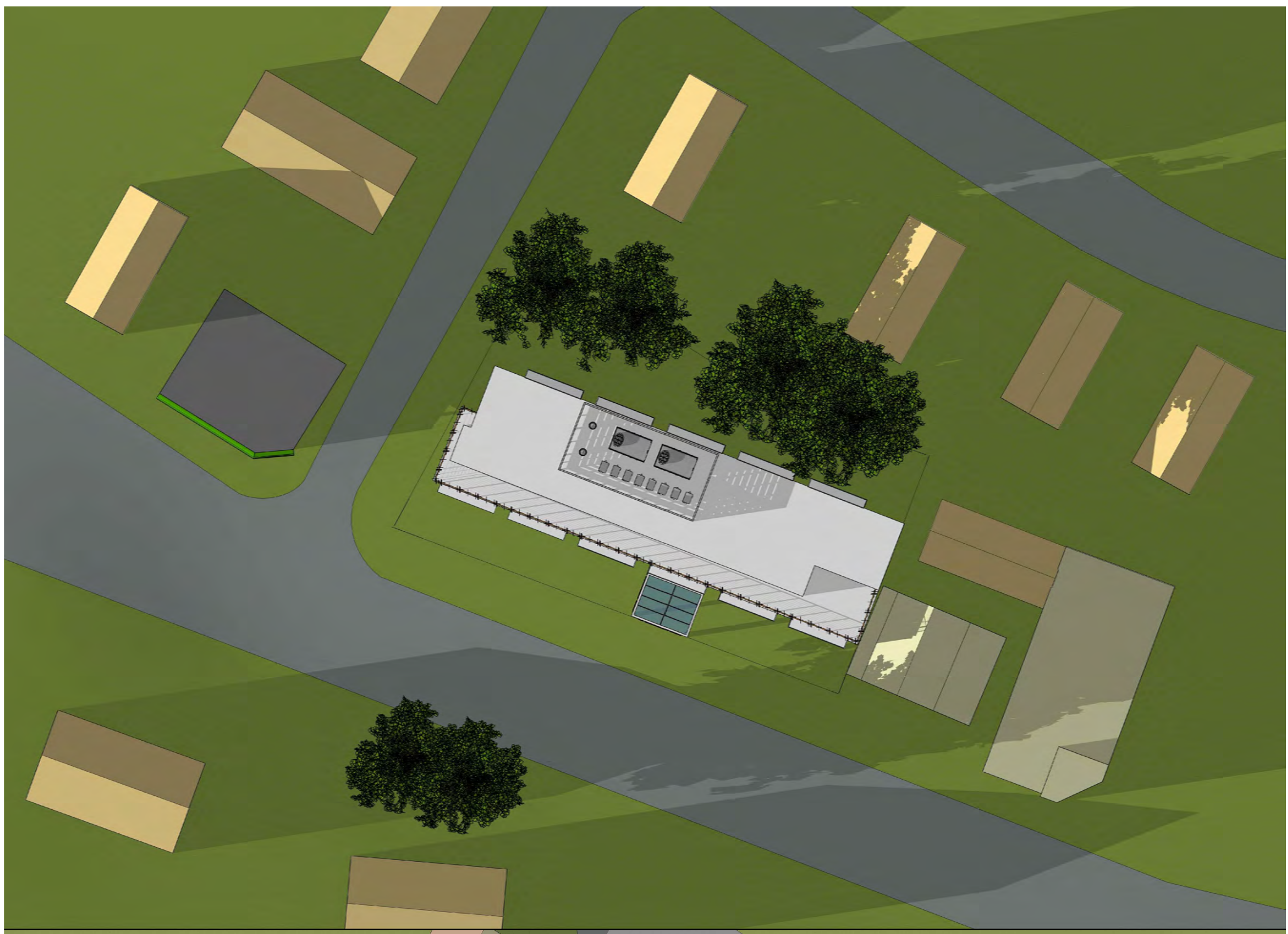
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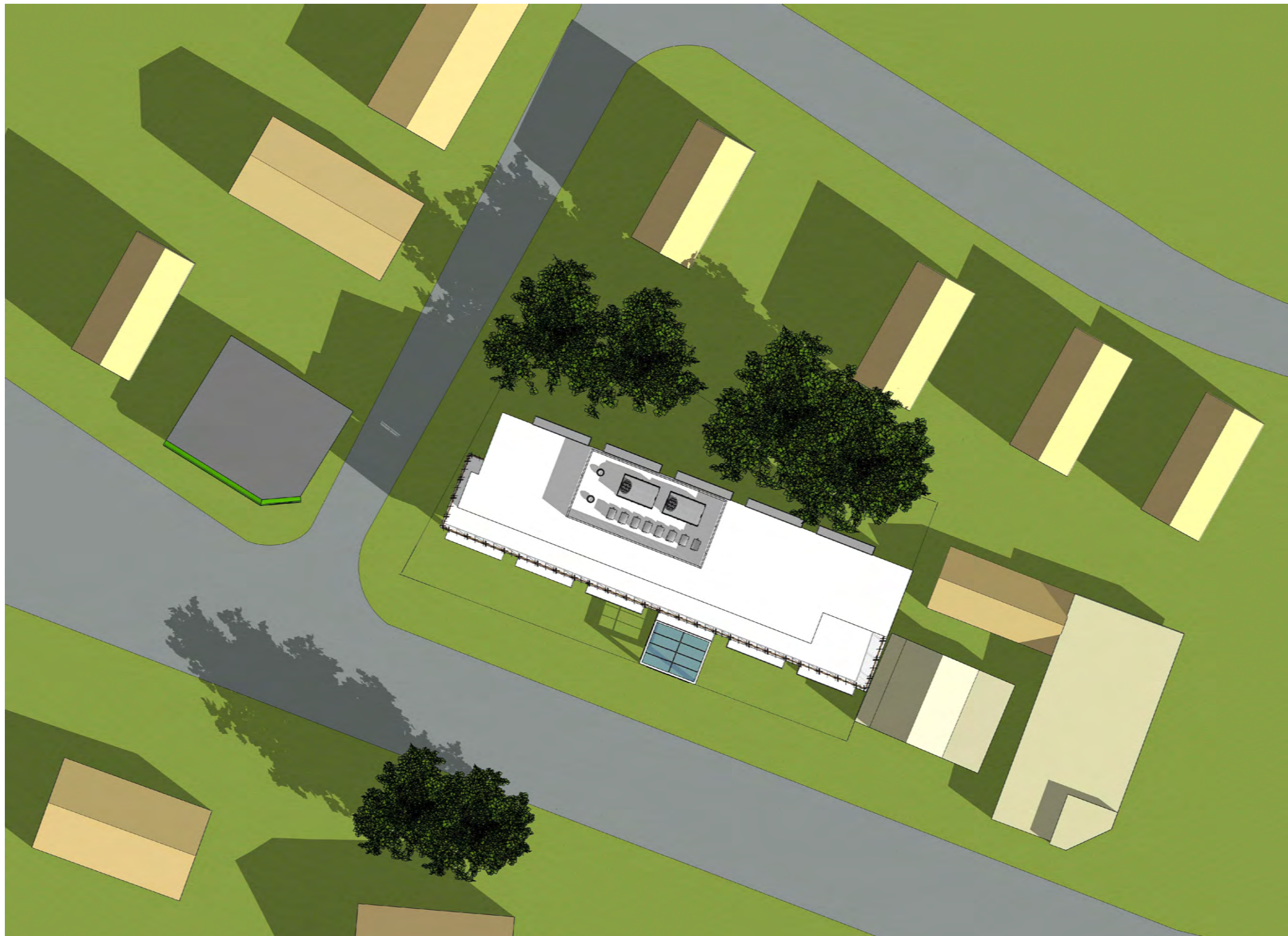
Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SHADOW STUDY
PROPOSED BUILDING
AUTUMN EQUINOX

Project Number
2017.032
Drawing Scale
N.T.S.
Drawn By
GMe
Checked By
GMe
Date Issued
06/23/20

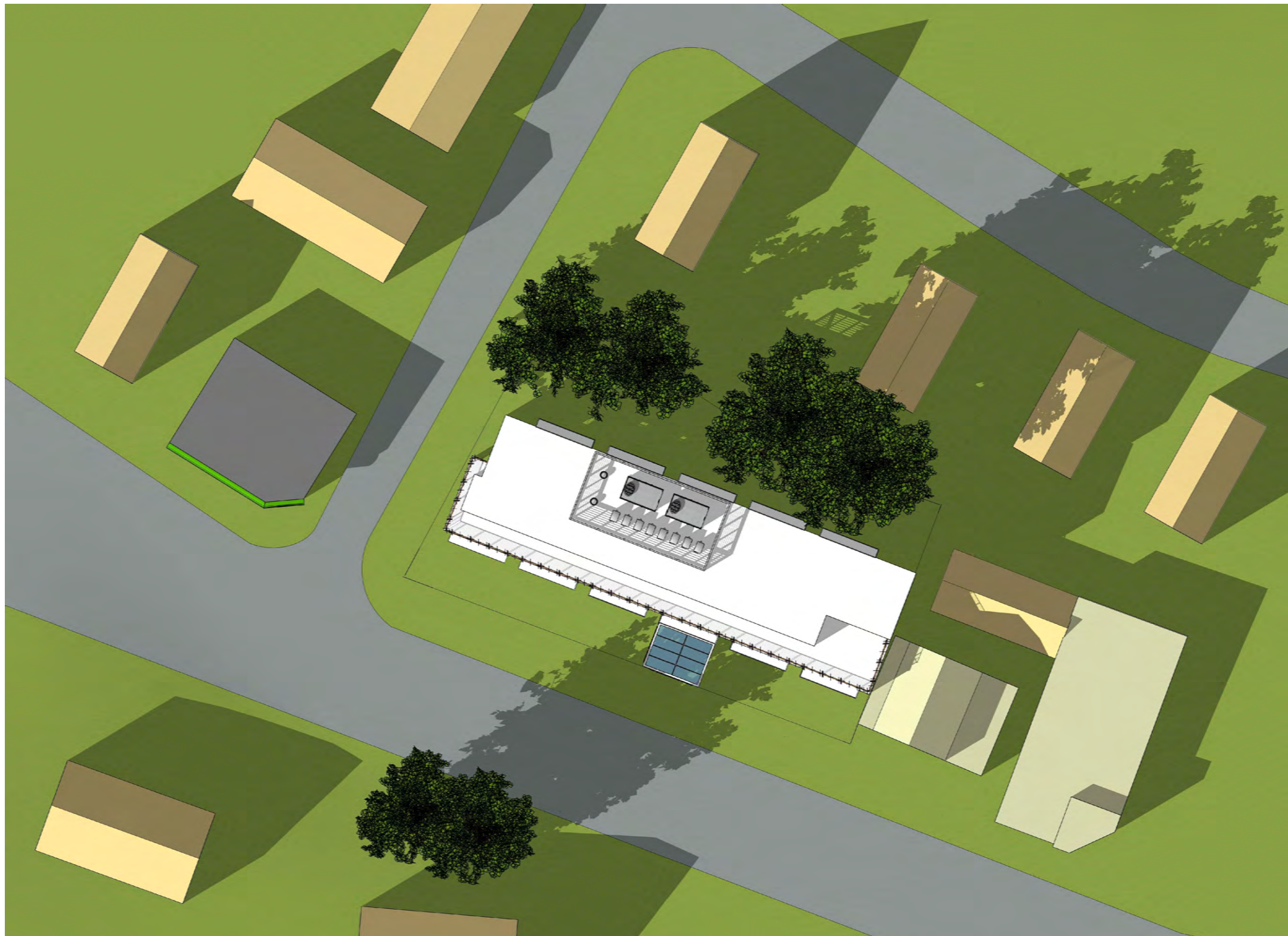
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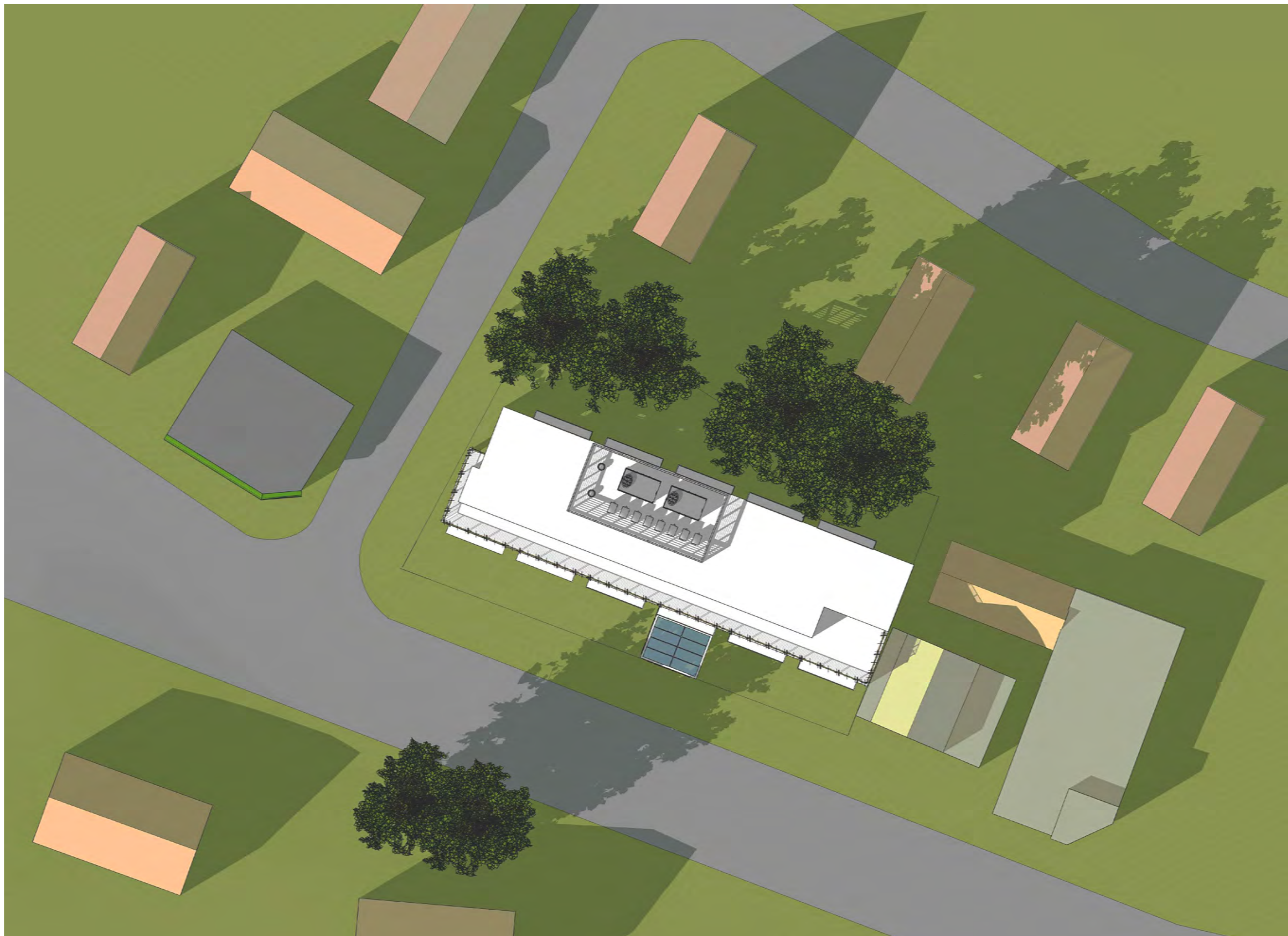
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PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

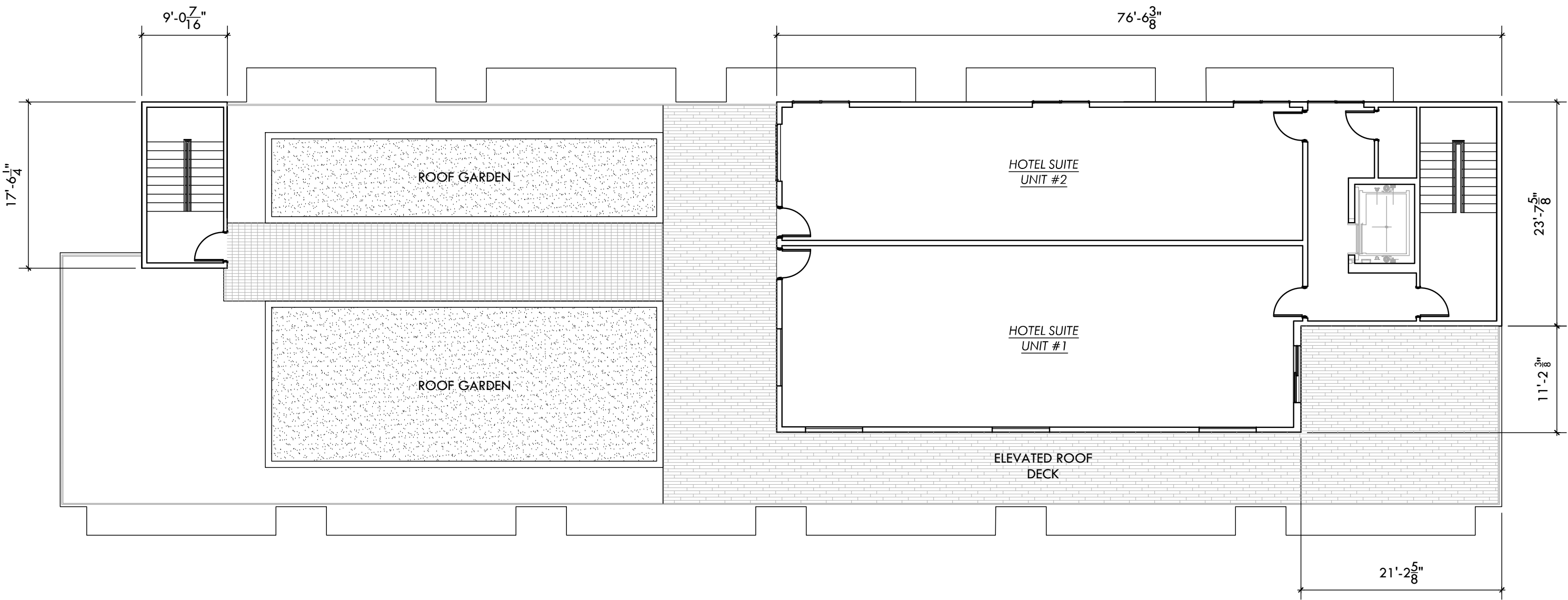
SHADOW STUDY
PROPOSED BUILDING
SPRING EQUINOX

Project Number 2017.032
Drawing Scale N.T.S.
Drawn By GMe
Checked By GMe
Date Issued 06/23/20

A6.4



ALTERNATE FOURTH FLOOR VIEW



GROSS FLOOR AREA FOR THE
FOURTH FLOOR = 2,587 sq. ft.

2 ALTERNATE FOURTH FLOOR PLAN
A7.1 SCALE: 3/32"=1'-0"

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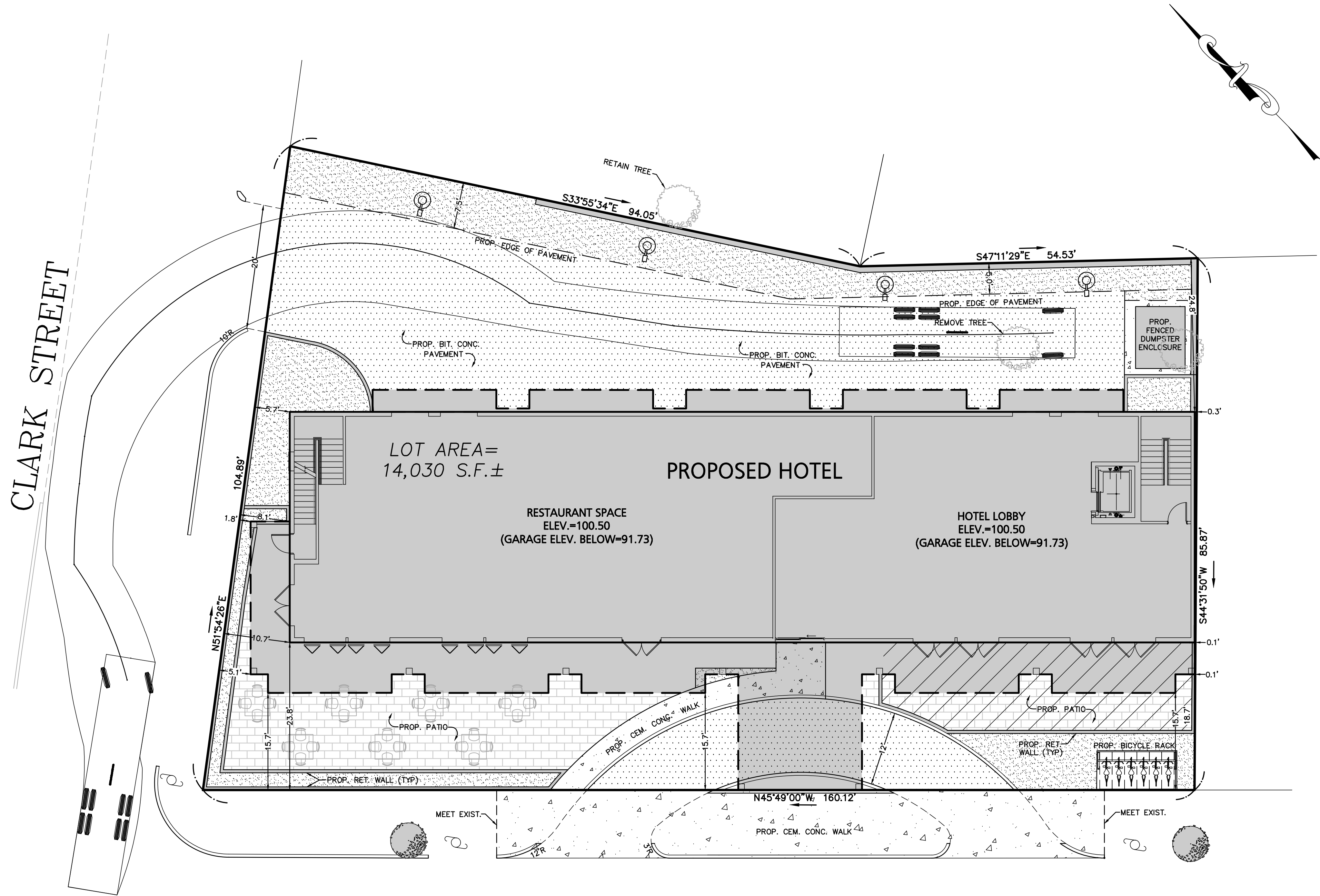
Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

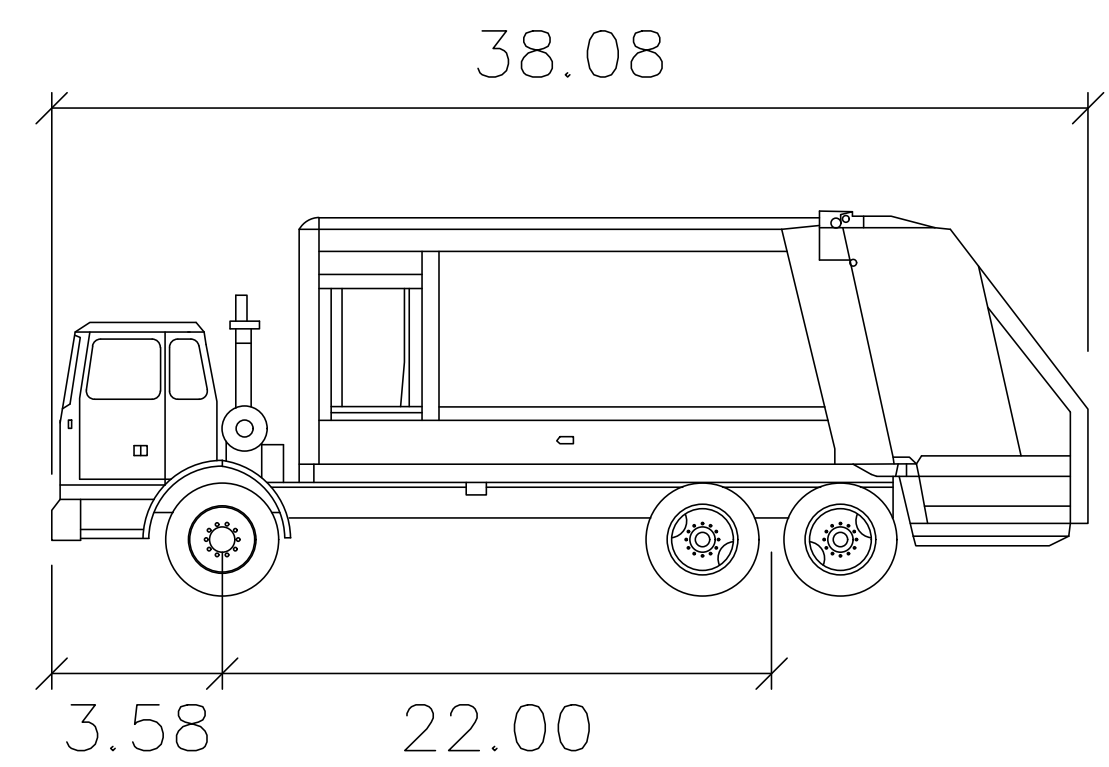
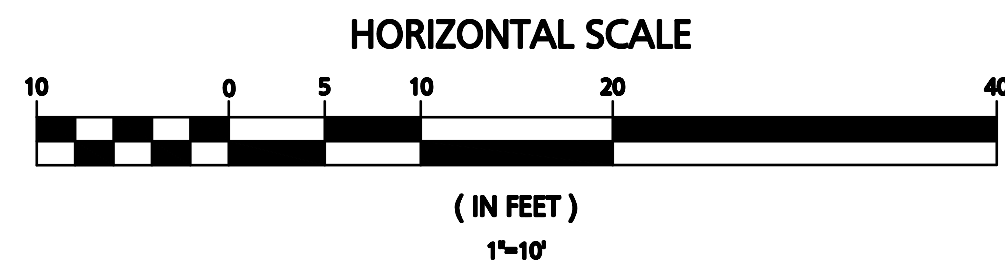
ALTERNATE
FOURTH FLOOR

Project Number
2017.032
Drawing Scale
3/32"=1'-0"
Drawn By
GMc
Checked By
GMc
Date Issued
08/06/20

A7.1





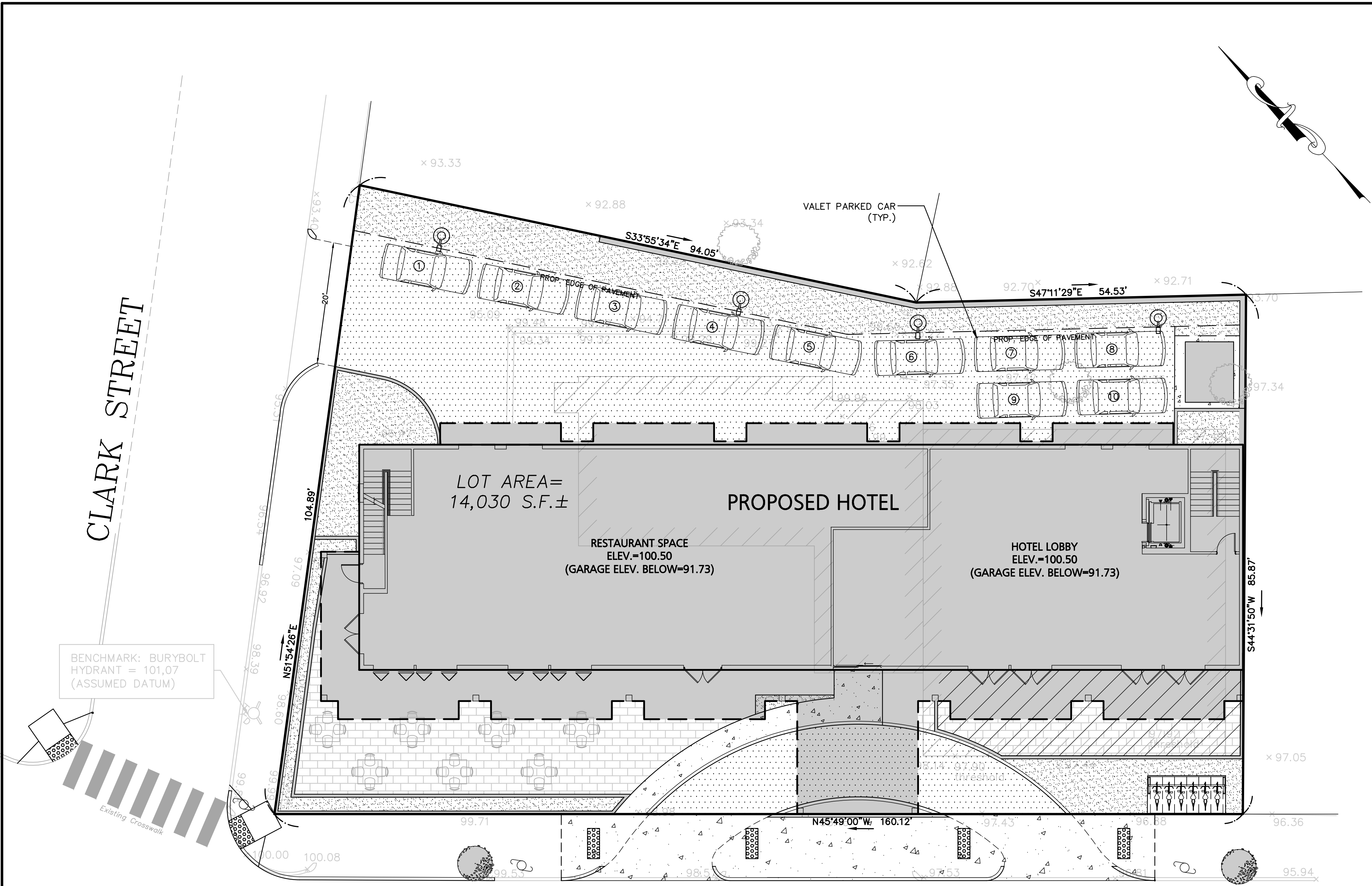
MASSACHUSETTS AVENUE



Front or Rear—Load
Garbage Truck

Width	: 8.00
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 27.4

PREPARED FOR:	Lincoln Architects LLC 1 Mount Vernon Street, Suite 203 Winchester, Massachusetts 01890		DRAWING TITLE: AutoTURN: Trash Removal	1 of 1	DWG. NO.
PROJECT:	Proposed Site Plan 1211 Massachusetts Avenue (Parcel ID: 58-11-1 & 57-4-14) Arlington, Massachusetts		Professional Engineer for Engineering Alliance, Inc.	8/5/20	REVISED PER HEARING COMMENTS
PREPARED BY:				DATE	DESCRIPTION OF REVISION
PROJECT #:	20-59805		DATE: June 18, 2020	DWG FILE NAME: 20-59805.dwg	
SCALE:	AS NOTED		DESIGN BY: Eric Bradanes, P.E.	CHECKED BY: Richard A. Salvo, P.E.	



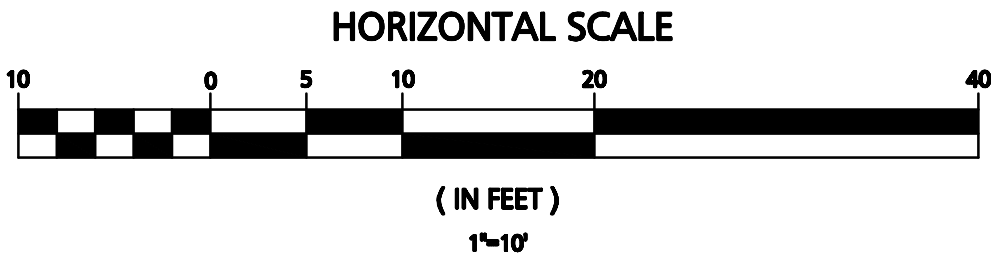
LEGEND - SITE LAYOUT PLAN	
PROPERTY LINE	
PROPOSED CURB	
PROPOSED BUILDING	
PROPOSED BUILDING OVERHANG	
PROPOSED BIT. CONC.	
PROPOSED LANDSCAPING	
PROPOSED CEM. CONC.	
PROPOSED PERV. PAVER	
PROPOSED WALL	

PARKING CALCULATIONS		
COMPONENT	REQUIRED	PROPOSED
HOTEL (50 ROOMS)	50 SPACES (1 SPACE PER ROOM) 50 ROOMS x 1 spaces = 50 Spaces	24 SPACES (Garage Spaces)
TOTAL	50 SPACES	24 SPACES

NOTE:
1A. RESTAURANT USE UNDER 3,000 S.F. DOES NOT REQUIRE PARKING
2A. STANDARD PARKING SPACES ARE 9'x18'
3A. RELIEF REQUESTED TO ALLOW 24 SPACES WHERE 50 ARE REQUIRED.

OPEN SPACE CALCULATION	
GROSS FLOOR AREA = 23,135 S.F.	
TOTAL OPEN SPACE = 4,492± S.F.	
19.4% OPEN SPACE	
BREAKDOWN OF OPEN SPACE:	
LANDSCAPED: 1,933 S.F.	
PATIO: 2,315 S.F.	
CEM. CONC. SIDEWALK: 244 S.F.	

MASSACHUSETTS AVENUE



PREPARED FOR:

Lincoln Architects LLC
1 Mount Vernon Street, Suite 203
Winchester, Massachusetts 01890

DWG. NO.

10f1

DRAWING TITLE:

Valet Parking Figure

PROJECT:

Proposed Site Plan
1211 Massachusetts Avenue
(Parcel ID: 58-11-1 & 57-4-14)
Arlington, Massachusetts

PROJECT #:

20-59805

SCALE:

AS NOTED

DESIGN BY:

Eric Bradanese, P.E.

PREPARED BY:

Engineering Alliance, Inc.
Civil Engineering & Land Planning Consultants
194 Central Street
Saugus, MA 01906
Tel: (781) 231-1349
Fax: (781) 417-0020

DATE:

August 5, 2020

DWG FILE NAME:

20-59805.dwg

CHECKED BY:

Richard A. Salvo, P.E.

Professional Engineer for
Engineering Alliance, Inc.

ADD EXIST. CROSSWALK AND DETECTABLE WARNING PANELS AT DRIVEWAYS

8-12-2020

DATE

DESCRIPTION OF REVISION



TOWN OF ARLINGTON
DEPARTMENT OF PLANNING and
COMMUNITY DEVELOPMENT

TOWN HALL, 730 MASSACHUSETTS AVENUE
ARLINGTON, MASSACHUSETTS 02476
TELEPHONE 781-316-3090

MEMORANDUM

To: Jennifer Raitt, Director of Planning and Community Development
From: Kelly Lynema, Senior Planner
Date: August 12, 2020
RE: Shadow Study for Docket #3602, 1207-1211 Massachusetts Avenue

At the 7/6/2020 Arlington Redevelopment Board hearing, members of the public raised concerns about the shadow study provided by the applicant for redevelopment of 1207-1211 Massachusetts Avenue. In response, the Department of Planning and Community Development (DPCD) agreed to provide an independent study of the shadows resulting from structures currently on the property and those that would be generated by the proposed development. Staff also felt that it was important to provide drawings that included impervious surfaces and trees on the proposed project site and the surrounding properties.

Methodology

DPCD staff prepared a model of the project site and abutting properties using the free version of Google SketchUp. A scale base map of the area was uploaded from Google Maps; this base map was overlaid with a more detailed map of the vicinity based on the Town's GIS data. Both maps were used in conjunction with information provided on Assessor's records, prior ARB and ZBA dockets, aerial photography from Google Earth, images on Google Street View, and three site visits to develop a detailed model of the area.

Staff included impervious surfaces and sidewalks based on the Town's GIS. Tree locations and estimated heights were assessed using the Town's Street Tree Inventory and a combination of Google Street View and site visits.

Projections of shadows are provided for the following:

	Existing Conditions	Proposed Conditions
March 21 (Spring Equinox)	9am, 12pm, 3pm with trees 9am, 12pm, 3pm without trees	9am, 12pm, 3pm with trees 9am, 12pm, 3pm without trees
June 21 (Summer Solstice)	9am, 12pm, 3pm with trees	9am, 12pm, 3pm with trees
September 21 (Autumnal Equinox)	9am, 12pm, 3pm with trees	9am, 12pm, 3pm with trees
December 21 (Winter Solstice)	9am, 12pm, 3pm with trees 9am, 12pm, 3pm without trees	9am, 12pm, 3pm with trees 9am, 12pm, 3pm without trees

A separate pair of plan view images showing the topographical conditions of the site with 10' elevation contour lines is provided for additional context.

Limitations of the Study - There are several limitations to this study based on available data and the limits of the free version of SketchUp.

Available Data:

- The Assessor's database identifies the number of floors in a structure, but does not include records of specific building heights; where possible, building heights were sourced through reviewing older ARB and ZBA dockets for prior cases reviewed in the neighborhood, but not all structures in the neighborhood have been through a Special Permit review. Site visits and Google Street View served to provide verification of building heights for structures abutting properties for which heights could be identified. Where building heights could not be determined, staff used a height of 35' for 2½-story structures, 24' for two-story structures, and 14' for single-story commercial structures.
- Staff used the Town's tree inventory to identify specific locations for street trees, however the inventory does not provide estimated tree heights, nor does it provide locations or heights for trees on private property. Again, site visits and Google Street View were used to estimate tree heights.
- It has been suggested that one of the trees at the rear of the 1207-1211 lot is slated to be removed, but staff was unable to find confirmation of which tree is proposed for removal. For the purposes of the study, there are two different scenarios. The March and December studies show two scenarios: one with all trees on the property and adjacent properties, and the other without trees on the property and adjacent properties.

Software Limitations:

- Drawings could not be exported to scale; providing graphics at a 1":20' ratio was not possible. Staff used precise measurements from Assessor's records and the applicant's drawings to portray the existing and proposed conditions as accurately as possible.
- A tool in SketchUp allows for the projection of shadows based on date and time of day; drawings in the attached files are labeled accordingly, but the specific points and graphics for sun direction are not provided.
- Staff generated generic tree forms instead of species-specific trees. To approximate the seasonal difference in shadows cast by deciduous trees, two versions of the March and December studies are provided: one with foliated trees and one without trees.
- While sections and elevations are not provided, there are a few important notes to observe. The ground level of the Children's Room on Massachusetts Ave and other buildings along Appleton Street are roughly 10 to 15 feet higher in elevation than the base of the 1207-1211 Massachusetts Ave site. While the area flattens out to the north and east side of the project site, it is significantly more sloped south and west of the Appleton/Mass Ave and Lowell/Mass Ave intersections.
- Poly lines and shapefiles could not be directly imported from GIS. All street, sidewalk, and elevation lines were drawn by hand.

Conclusions

There is limited shadow impact on the surrounding area by the proposed development. Additionally, the drawings demonstrate that the existing tree barrier between the commercial buildings on Massachusetts Avenue and the residential structures on Peirce Street nears the height of the proposed structure. As the ARB evaluates the impact of shadows from the proposed structure, this study should provide additional clarity around where those shadows are cast, and whether they land on structures, open space or driveways. Finally, this study appears to support similar conclusions in the shadow study previously provided by the applicant.

3/21 (SPRING EQUINOX)

Prepared by Arlington Department of
Planning & Community Development, 8/7/2020

EXISTING CONDITIONS

9:00 AM



12:00 PM



3:00 PM

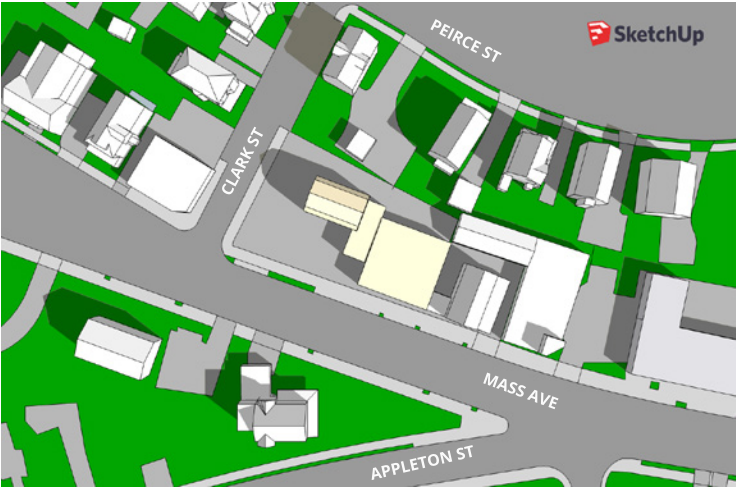


PROPOSED

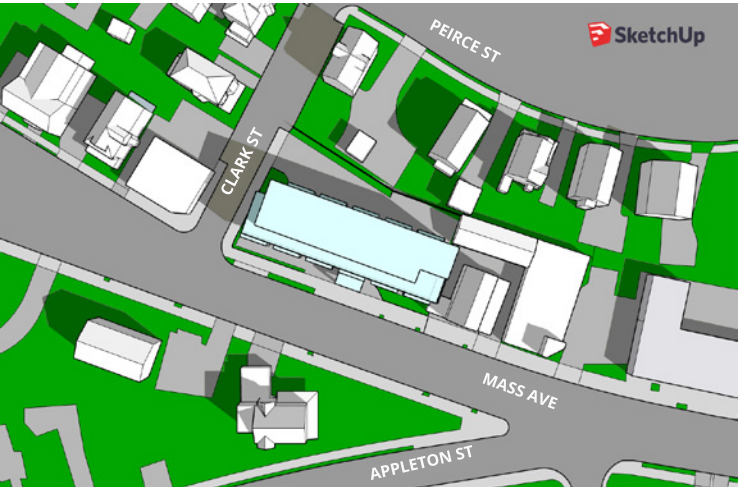


EXISTING CONDITIONS

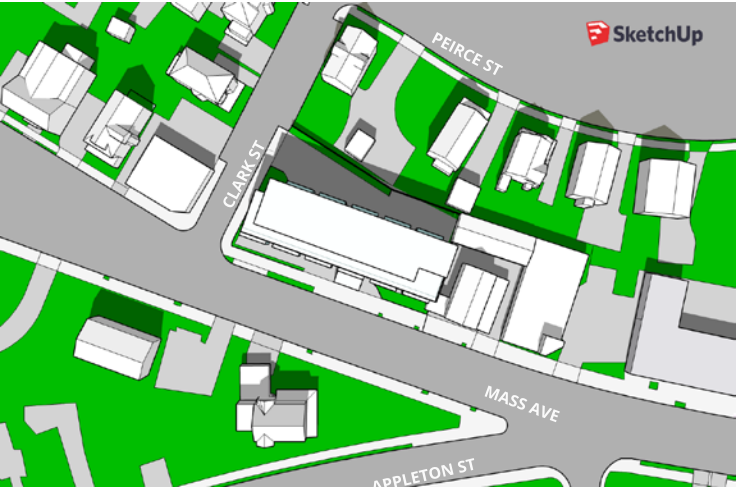
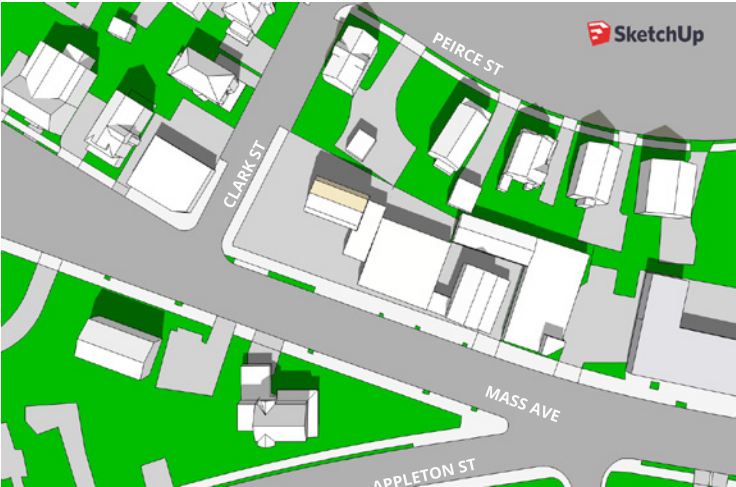
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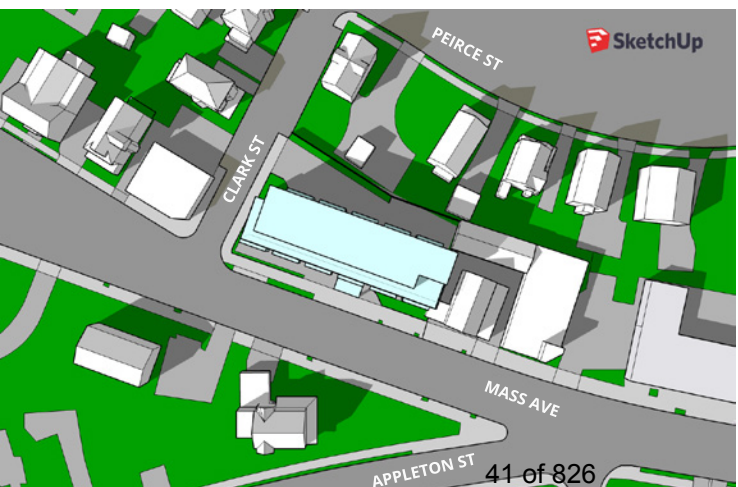
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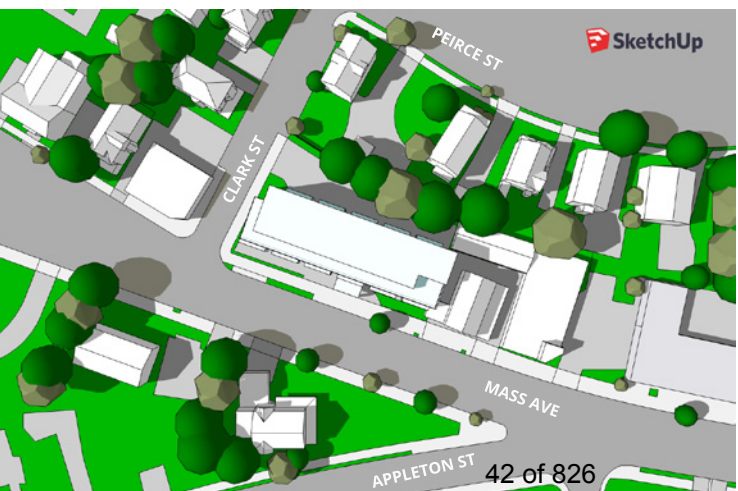
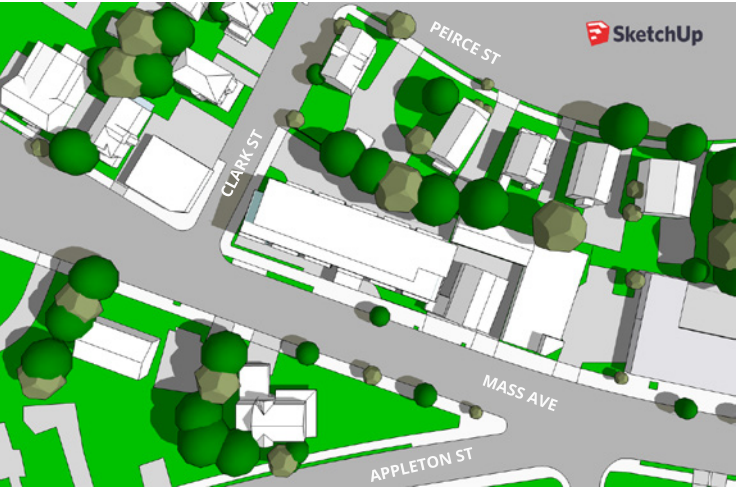
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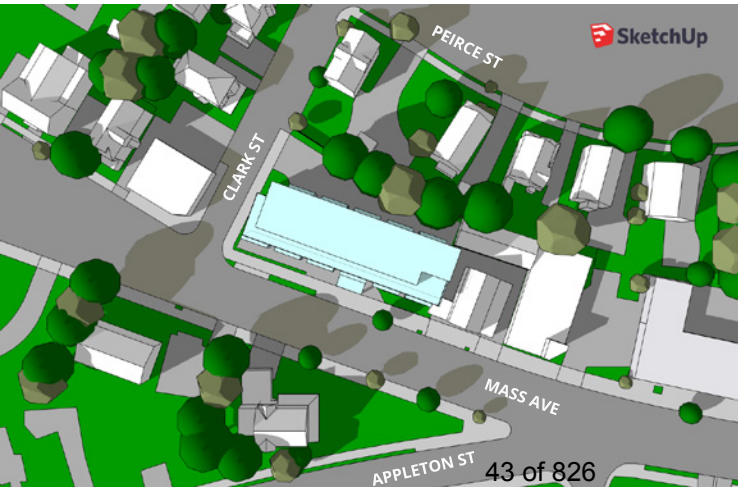
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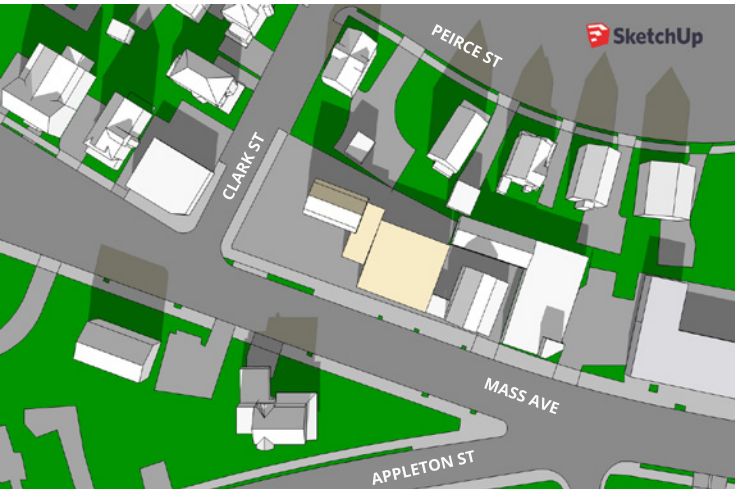


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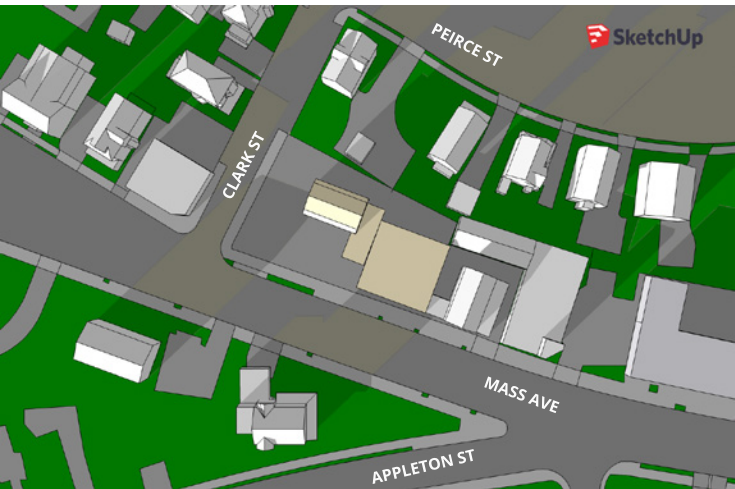
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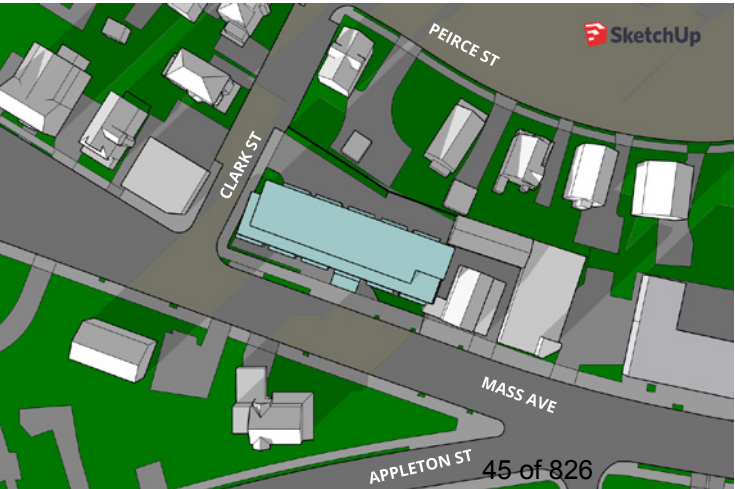
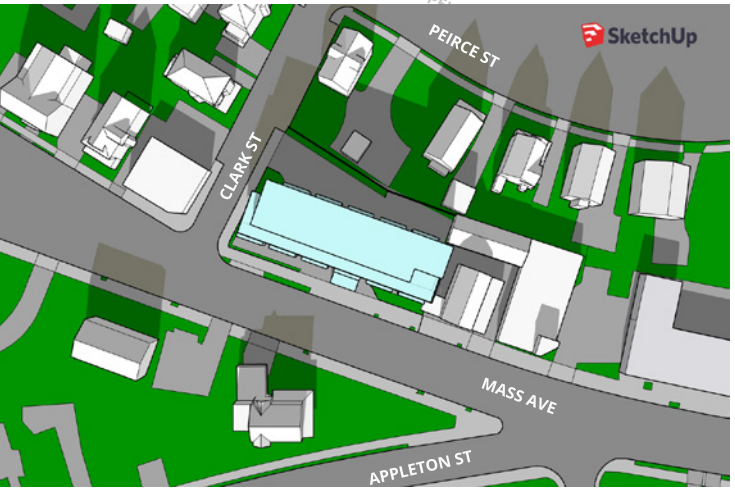
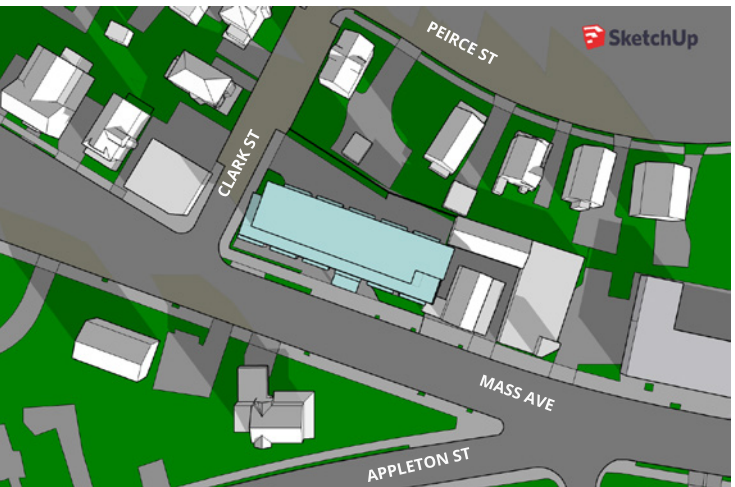
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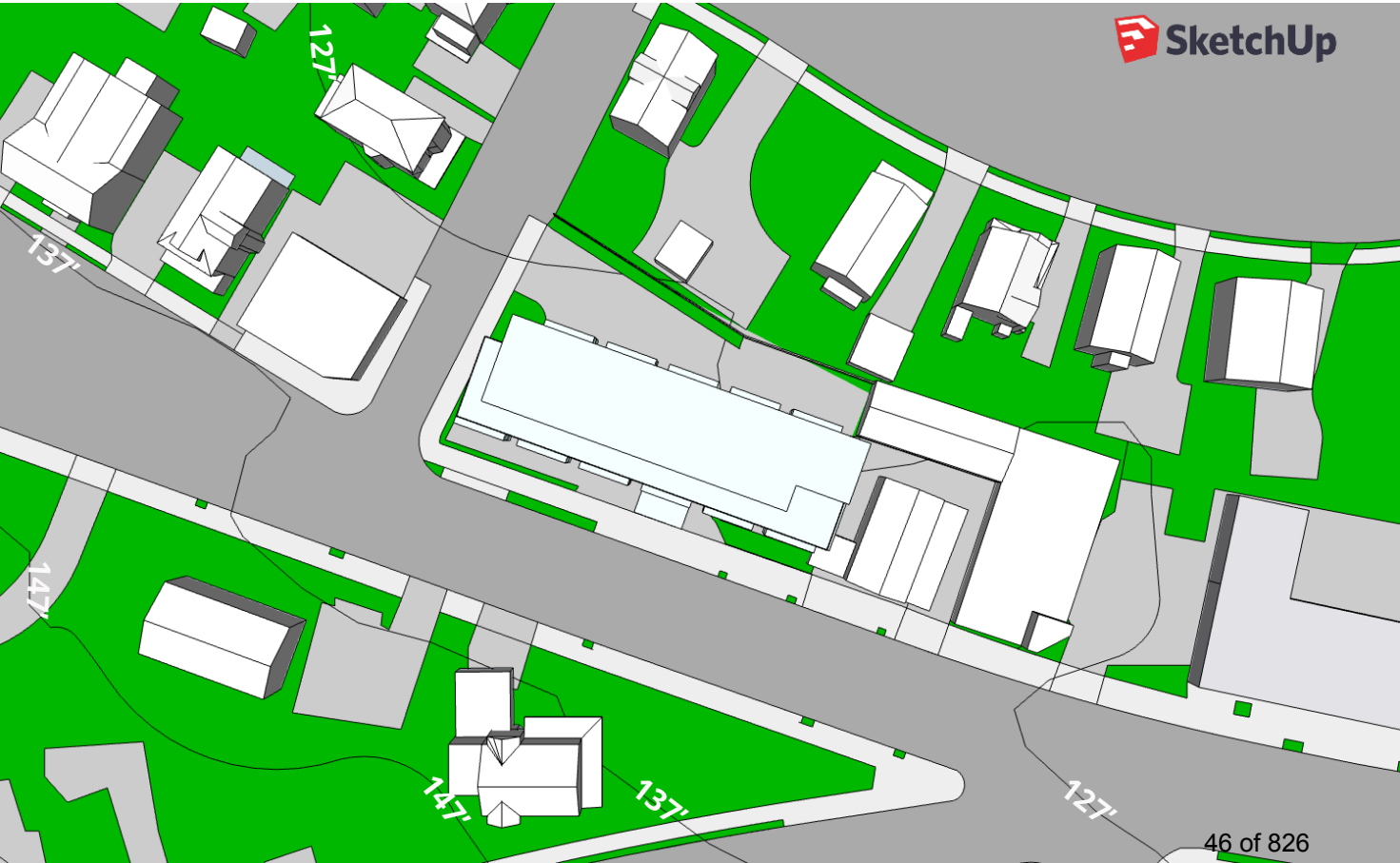
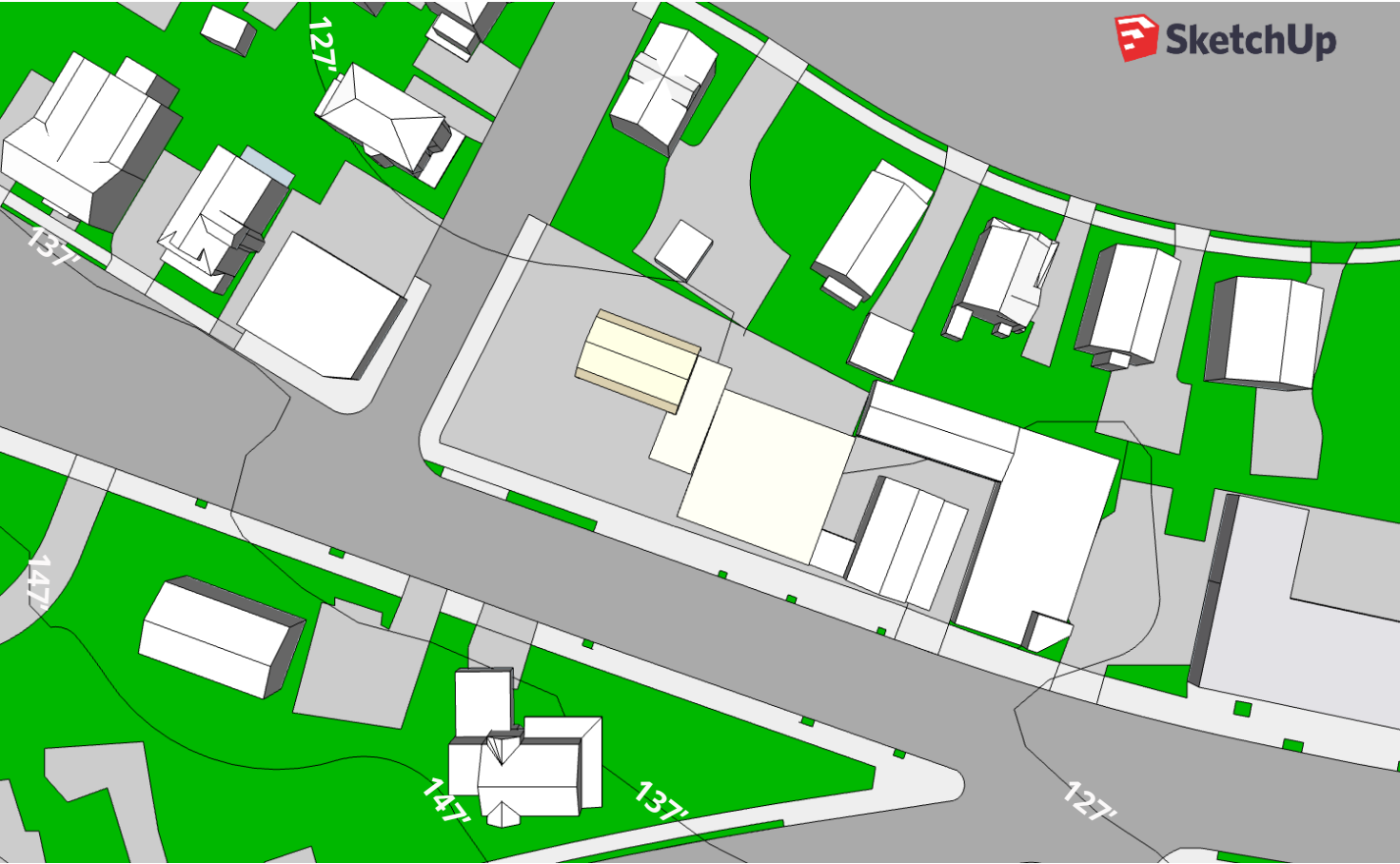


PROPOSED



TOPOGRAPHY (10' INTERVALS)

Prepared by Arlington Department of
Planning & Community Development, 8/7/2020





TRANSPORTATION ADVISORY COMMITTEE.

Arlington Planning Department, 730 Mass Ave,
Arlington MA, c/o Daniel Amstutz.

Date: August 6, 2020.
To: Jenny Raitt, Director, Department of Planning and Community Development.
From: TAC 1207-1211 Massachusetts Avenue Working Group.
Subject: Traffic Impact and Access Study Review.

Memorandum.

The TAC working group for 1207-1211 Massachusetts Avenue (proposed hotel development) has reviewed the proponent's Traffic Impact and Access Study (TIAS), dated June 2020. The working group includes Jeff Maxtutis (TAC Vice Chair), Tycho Nightingale, Dan Amstutz (Planning and Community Development Department), Scott Smith and Howard Muise (TAC Chair), and offers the following comments on the TIAS and site plan documents. The review did not include the proposed Traffic Reduction Plan for the project.

1. The TIAS concludes "that the vehicle trips generated by the Project can be accommodated at study area intersections and roadways without the need for further mitigation. Further investigation of safety issues throughout the area should be considered by the Town of Arlington." Although the proposed project's traffic impacts are not substantial, the impacts on traffic, pedestrians and bicyclists are also not negligible. The working group recommends the following:

☒ In its summary, the report also concludes that "There are safety issues at the intersection of Massachusetts Avenue at Appleton Street and Appleton Place based on MassDOT crash data. A fatal collision involving a bicyclist recently occurred at this location." This conclusion appears to contradict the overall conclusion of the report cited above. It is standard practice in traffic impact reports for the applicant's traffic engineer to identify potential mitigation measures for deficient locations impacted by a proposed project. Since the project will add vehicular, bicycle and pedestrian travel through the Massachusetts Avenue/Appleton Street/Appleton Place intersection, which is a high crash location, the ARB should ask the applicant to identify potential improvements at the intersection and should consider asking the applicant to contribute to mitigation improvements at that location.

☒ The applicant should submit a parking supply/demand analysis to show that the project is providing sufficient on-site, off-site and on-street parking to accommodate the parking needs of hotel and restaurant patrons and employees (see more detailed discussion of parking below). This analysis should include demonstrating that an additional eight tandem spaces can be accommodated on-site and should be based on the peak time of combined hotel and restaurant demand. In addition, the analysis should include consideration of the possible loss of on-street parking with potential improvements at the Massachusetts Avenue/Appleton Street/Appleton Place intersection.

☒ Clark Street sidewalk, roadway, and curb adjacent to the site appears to be in poor condition. The Applicant should repair the sidewalk curb between Massachusetts Avenue and the project driveway along the site frontage of Clark Street. The existing pedestrian ramp on the southeast corner of Massachusetts Avenue/Clark Street is not ADA compliant. There is no ramp on the opposite

corner. The Applicant should provide ADA-compliant ramps and detectable warning panels on both corners.

✎ The site concept shows two trees on the Mass Ave frontage. There is one existing street tree which is not shown. The applicant should explore if the existing street tree can be retained and whether additional street trees can be provided to improve the walking environment along Massachusetts Avenue.

✎ As shown in the renderings of the front of the building, there will be a sidewalk along the west side of the semi-circular driveway but not on the east side, which is depicted to have plantings. A sidewalk should be added on the east side to allow pedestrians to walk safely to the hotel front door coming from the east along Massachusetts Avenue or the bike rack.

✎ The Proponent should be required to provide handicap ramps on all sidewalk approaches to the three driveways. No ramps are depicted on the Landscape and Grading plans. Where the front driveways cross the sidewalk, the detail on the Grading Plan shows a 1.5 percent cross slope for three feet starting from the back of sidewalk and up to 15 percent for the remainder of the distance to the street. The driveway slopes should be reanalyzed to make sure they are ADA compliant.

1. The TAC working group has the following questions and comments about the study methodology:

✎ The report does not include a parking supply/demand analysis. The proposed parking supply consists of 24 tandem spaces in below-grade parking, accessed via Clark Street at the back of the building. Vehicle parking will be controlled by valet service that will pick-up and drop-off vehicles in the circular driveway in front of the building. The letter, dated June 24, 2020, from Jennifer Raitt, Director of the Department of Community Development, states that an additional 10 off-site spaces will be provided at the Ottoson School and 1289 Massachusetts Avenue. This information should be included in the TIAS. The report indicates that there is on-street parking in the area and that the hotel will not reduce the number of one-street spaces and that an additional eight tandem spaces could be added. The site plan does not appear to show enough space to accommodate additional parking. The report should show that there is sufficient on-site, off-site and on-street parking to accommodate hotel and restaurant parking for patrons and employees. This should include demonstrating that an additional eight tandem parking spaces can be accommodated on-site and should be based on the peak time of combined hotel and restaurant demand. In addition, the analysis should include consideration of the possible loss of on-street parking with potential improvements at the Massachusetts Avenue/Appleton Street/Appleton Pace intersection.

✎ Pedestrian/bicycle volumes were only gathered for AM and PM commuter peak periods on one day in February (February 4, a day with cloudy weather and temperature in the 40s). The pedestrian/bicycle volumes were listed in the Appendix but were not analyzed in the report. The study did not capture the school-related mid-afternoon peak period. Understanding existing and future pedestrian/bicycle activity will help to identify any existing or prospective safety issues in the area. Since counts cannot be taken at this time due to the Covid pandemic, the applicant should identify any existing or prospective safety issues for pedestrians and bicycles

Transportation Advisory Committee Members:

Daniel Amstutz (Planning), Ky Bertoli, Aravind Basavapathruni, Wayne Chouinard (Public Works), Lenard Diggins, Charles Giroux, Melissa Laube, Jeff Maxtutis, Howard Muise (Chair), Tycho Nightingale, Officer Corey Rateau (Police), Scott Smith, Laura Swan

Web site: www.arlingtonma.gov/tac

↘ Section 3.4 of the TIAS discusses the various factors (walking, bicycling, and using transit) that could reduce the share of trips that would be made by motor vehicle but never states what vehicle mode share was used. The report should provide that information. This would help to determine if the 24 proposed parking spaces are adequate for the project's parking demand (see comment above).

↘ There were no traffic counts performed at existing site driveways to identify existing site trip generation. The consultant used Institute of Transportation Engineer (ITE) trip generation rates to estimate the existing volume of traffic generated by the current uses on the site. This included using High Turnover Sit Down Restaurant trip generation rates to estimate the existing trip generation of the Disabled American Veterans (DAV) Club. It is our understanding that the DAV closed in 2014 and, therefore, has not been generating site trips since then. It seems contrived to consider future trips from the restaurant being offset by "existing" trips from the DAV. If the existing number of trips from the site was reduced by the 28 vehicle trips in the AM peak hour and 27 in the PM peak hour estimated for the DAV, the net increase in new project trips would be about double the trip generation presented in the report.

↘ The study erroneously refers to this part of Massachusetts Avenue as Route 2A. Summer Street is Route 2A in this area.

↘ It should be noted that the crash rate at Massachusetts Avenue/Forest Street/Burton Street of 0.54 nearly meets the threshold rate of 0.57, which is indicative of a high accident location.

↘ The future analysis year was 2025 (5 years). Typically a 7-year horizon is used.

Transportation Advisory Committee Members:

Daniel Amstutz (Planning), Ky Bertoli, Aravind Basavapathruni, Wayne Chouinard (Public Works), Lenard Diggins, Charles Giroux, Melissa Laube, Jeff Maxtutis, Howard Muise (Chair), Tycho Nightingale, Officer Corey Rateau (Police), Scott Smith, Laura Swan

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MARY WINSTANLEY O'CONNOR
KENNETH INGBER

OF COUNSEL: RAYMOND SAYEG

August 10, 2020

VIA EMAIL

Jennifer Raitt, Director
Department of Planning and Community
Development
Town of Arlington
730 Massachusetts Avenue
Arlington, MA 02476

Re: 1207-1211 Massachusetts Avenue, Arlington, MA (collectively
referred to as the "Property") / Docket No. 3602

Dear Director Raitt:

Pursuant to the request of the Arlington Redevelopment Board (hereinafter referred to as the "Board"), I am providing the Board with the additional information requested:

- Floor Area Ratio Calculation for the Building, Bonus and Open Space Calculations and Issues Regarding Public Access Space¹

Article 5, Section 5.3.6 references the exceptions to the maximum floor area ratio ("FAR") regulations or the "bonus" FAR, so-called. The determination that the proposed project is not a dwelling is relevant to the determination of the bonus FAR provisions contained in Article 5, Section 5.3.6. Article 5, Section 5.3.6C sets out the additional gross floor area or bonus FAR permitted.

The square footage of both lots is 14,030. The GFA would be 21,045 square feet (14,030 x 1.5 – see Article 5, Section 5.5.2. The bonus FAR would be 2,104 square feet (21,045 x .10). See Article 5, Section 5.3.6(D)(5).

Section 5.3.6A specifically authorizes the Board to grant a special permit subject to the standards contained in Section 3.3 or 3.4, as applicable, to allow a maximum gross floor area higher than is permitted in the district subject to the requirements set out at 5.3.6A(1)-(3).

¹ The building inspector has determined that: (a) the floor area of the cellar of the proposed hotel and restaurant is excluded from the calculation of Gross Floor Area as more than one half of its height, measured from finished floor to finished ceiling is below the average finished grade of the ground adjoining the building. Article 2 and Article 5, Section 5.3.22(A)(6); and (b) bay windows that are more than two feet off the floor are likewise excluded from the calculation of Gross Floor Area.

KRATTENMAKER O'CONNOR & INGBER P.C.

Jennifer Raitt, Director

August 10, 2020

Page 2

Accordingly, the total GFA permitted would be 23,149 square feet (21,045 +2,104). The petitioner's proposed GFA is 22,845 square feet.

The petitioner suggests that this proposal satisfies the requirements of Article 5, Section 5.3.6A(1) and (2).

The petitioner is proposing "public access" space, which will provide for a public art and presentation area located in the front right area of the Property. As such, the Property, two lots which are being aggregated with the B-4 use the larger use, is entitled to a 10% increase in FAR. The revised plans which are attached indicate that the petitioner is granting the Town 675 square feet of bonus FAR space, which is substantially more than is required by the Bylaw.

After considering the functionality of a 210 square foot area, the applicant felt this amount of space would not meet his vision for public use and has offered to provide 675 square feet (while still only getting a benefit based on the 210 square foot requirement). He has proposed the area run concurrent with the 40 year mixed-use restriction as well as a reasonable scheduling plan; as there are two business operations utilizing the site.

- Applicants Vision

From the outset of the RFP process, the applicant has been clear that his belief and desire is to leverage this development in two major ways; first, that this project would be a major catalyst in furthering the multi-decade attempt to tap into the tourism trade in Lexington; secondly, it would create much needed pedestrian traffic in the Heights, helping to stimulate economic activity.

A significant component of this is creating an open and welcoming venue for historical, cultural and artistic presentations (a great chance for exposing visitors and residents to the historical treasures in town). This generous proposal of 675 square feet is an attempt to provide truly a functional area, which will provide an outdoor, upscale, relaxing area to enjoy public events. He believes the proposal achieves this goal.

An open space which has no other amenities or onsite logistical support does not achieve the applicant's vision. Instead, this proposal creates a real opportunity to provide a true "public private" success. The goal is to work with the hotel operator to store, setup and support the technological and utilities needed to make the site a truly meaningful venue. In fact, the applicant believes that working with the hotel and restaurant could likely result in the potential for some in kind donations of menu samples and refreshments during these events. The applicant's vision is something "outside the box", a first for Arlington and sets the bar for similar future projects. No one should be interested in a small benign area with no usefulness and something destined to be underutilized.

KRATTENMAKER O'CONNOR & INGBER P.C.

Jennifer Raitt, Director
August 10, 2020
Page 3

However, whether the applicant proceeds with the project based on the increased GFA is directly connected to the need to have restrictions placed on the use of the bonus area, including the number of days per week and the amount of time it is utilized. The applicant cannot and will not agree to unfettered use of the space for seven days a week from dawn until dusk. This is neither in the interest of the hotel and restaurant operators nor neighborhood.

- **Issues to be Considered**

The Bylaw (Section 5.3.6, D(5)) refers to “deeded or easement” space. As noted, the applicant is willing to have the space restricted for the forty year mixed-use term. However, when you read further, the bylaw notes that this public area shall not be included in open space or in calculating the GFA. The result of this language is that when calculating the maximum GFA, the applicant loses 315 square feet of GFA.

If the applicant does not utilize the bonus GFA section of the Bylaw, he suggests that the following will occur in reducing the size of the development.

1. 4 to 6 hotel rooms would be removed from the fourth floor with a conservative estimate of \$1,500,000 to \$2,000,000 in lost hotel taxes to the Town over 40 years (this number is based on current room and tax rates, which will likely increase).
2. A substantial reduction in property taxes. Due to the reduction in the room count, the applicant estimates that the property tax lost to be between approximately \$326,000 to \$490,000 over 40 years (this number is based on current assessments and tax rates). Please keep in mind that if the Town does go to a split tax rate in the future, this entire project would be taxed at the higher commercial rate.
3. The opportunity to set a new benchmark for creating open public space throughout our business districts will likely be lost.

- **Corner Lots, Setbacks and Upper Story Stepback**

Article 5, Section 5.3.8(A) provides that a “corner lot shall have minimum street yard depths which shall be the same as the required front yard depths for the adjoining lot”. The lot adjoining the property at issue on Clarke Street located in an R-2 zone has a front yard depth of 7.9 feet.

The Bylaw requires no front or side yard setback for a Mixed-Use Development, Article 5, Section 5.5.2(B).

KRATTENMAKER O'CONNOR & INGBER P.C.

Jennifer Raitt, Director
August 10, 2020
Page 4

The approved correct version of Article 5, Section 5.3.17 provides for an additional 7.5 foot stepback beginning at the fourth story "along all building elevations with street frontage . . ."² This is no longer an issue as the fourth floor has a 7.5 stepback from Massachusetts Avenue and Clark Street sides.

The Board, as confirmed by Town Counsel in his memorandum dated May 13, 2020, has the authority to grant an adjustment to the required setbacks as set forth elsewhere in the Bylaw to account for specific conditions unique to the proposal. Thus, if it is the Board's position that Section 5.3.8(A) applies, the Board has the authority to adjust the setback. Indeed, the Board has done so on a number of projects most recently for 882-892 Massachusetts Avenue.

Further, I have discussed Section 5.3.8(A) with the building department. The interpretation of the language "which shall be the same as the required front yard depths for the adjoining lot" references the present required front yard depth of the adjoining lot, which is 7.9 feet. If the homeowner were required to rebuild, the required front yard depth would be the existing front yard.

The proposed project at the Massachusetts Avenue/Clark Street corner is 10.7 feet from the lot line and at the rear of the building is 5.7 feet from the lot line. If the required front lot line of the adjoining lot is 7.9 feet, the relief requested by the applicant relates to essentially the rear portion of the Clark Street lot line and is frankly de minimus particularly given the relief granted to 882-892 Massachusetts Avenue. Moreover, even if the required front yard depth were 20 feet, this Board is clearly compelled by the facts to grant the relief requested.

The applicant can make and has made as set forth below a clear and compelling case for the Board to find that there are conditions unique to this proposal enabling the Board to grant the setback relief requested.

The applicant respectfully suggests that the facts and circumstances unique to the proposed project that compel the Board to exercise its discretion to adjust the required setback on the Clark Street side are as follows:

1. The proposed development is truly a mixed-use project as contemplated by the Bylaw.
2. The conversion of a vehicular-oriented business district lot from a vehicular-oriented use to an aesthetically pleasing mixed-use development is prioritized in the Bylaw. The Bylaw, Article 5, Section 5.5.1(E), in fact, encourages the

² Town Counsel's Memorandum dated May 13, 2020, addresses the correct version of Section 5.3.17 to be applied by the Board.

KRATTENMAKER O'CONNOR & INGBER P.C.

Jennifer Raitt, Director
August 10, 2020
Page 5

conversion of B-4 uses “to other retail, service, office, or residential use, particularly as part of a mixed-use development.” (emphasis supplied.)

3. The applicant is incorporating into the project a significantly undersized and generally nonconforming lot owned by the Town into a viable development. The lot on which the Disabled American Veterans building is located, 1207 Massachusetts Avenue, is only 4,645 square feet. The only use that could be made of this lot under the Bylaw is for a mixed- use project. The size of the lot and the constraints of the Bylaw virtually make this lot impractical and undesirable for development.
4. The price and conditions imposed by the Town in its request for proposal resulted in only one bid for 1207 Massachusetts Avenue, which was the proposal made by the applicant. Absent the development of the Town-owned lot as proposed by the applicant, the Town will likely be unable to procure an interested party that would be prepared to pay the price demanded by the Town and incur the costs to develop a relatively small building.
5. This proposed projects sits at the “Foot of the Rocks”, which is the site of the former home of Benjamin Locke, who served as a captain for Menotomy’s Minute Men during the Lexington Alarm. After Paul Revere and William Dawes rode past Locke’s house at the Foot of the Rocks, present day Appleton Street, Locke roused the troops in the early morning of April 19, 1775, and headed to Lexington. This area is the start of the Arlington Heights neighborhood and business district and is the gateway to the Heights. Arlington became a charter member of the Battle Road Scenic By-Way Committee in 2013, which promotes and enhances tourism along the length of the Battle Road area. Master Plan, p. 100. This proposed hotel is at the “Foot of the Rocks”, one of the twenty-one (21) places in Arlington along the scenic byway with a significant potential to attract tourism and overnight guests.

There are no hotels in this area of Town. This is an opportunity for the Town to capture a significant portion of the tourism business from the three large hotels in Lexington, the Quality Inn, Aloft and Element. Consideration should be given to the small businesses, including the small restaurants in Arlington that are clearly suffering from the effects of the pandemic that would benefit from the revenue from out-of-town guests staying at the hotel and frequenting their businesses.

6. As noted in the Master Plan commissioned by this Board, Arlington’s various theatres attract out-of-town visitors who spend significant funds in nearby shops, restaurants and service businesses. Master Plan, p. 99. With attractive and

Jennifer Raitt, Director
August 10, 2020
Page 6

available lodging, out-of-town visitors traveling a distance could extend their stays and provide additional business for the local businesses.

7. This project will provide residents and visitors with a sit-down restaurant, lodging and additional customers for the businesses located in the Heights. This is significant given the likely business closures that have resulted and may result due to the pandemic. In the Master Plan adopted by the Board on February 4, 2015, a key finding of the committee was and is that Massachusetts Avenue has the capacity for growth. One of the Master Plan goals for economic development is to "maximize the buildout potential of commercial and industrial properties." Master Plan, p. 95. One of the long-term goals of the Town in Arlington Heights is to "redevelop key commercial sites with high-value retail and mixed-use structures." Master Plan, p. 100. This proposed project comports with the findings and goals of the Master Plan.
8. The hotel is indeed unique in that it generates a hotel tax of 5% on the nightly room rate paid directly to the Town. Moreover, the proposed project will be an overall addition to the tax base without any offset for the use of Town services. The applicant suggests that this project encourages "an orderly expansion of the tax base by utilization, development, and redevelopment of land." Article 1, Section 1.2.

With respect to site lines and visibility, the revised plans show the flattening of the entrance and visibility to Clark Street such that pedestrians will have safe access.

Accordingly, the applicant suggests that the setback and the extensive buffer and plantings proposed provide a more than adequate setback and buffer for this project. This Board most recently in Docket No. 3625 for the project at 882-892 Massachusetts Avenue exercised its discretion under the Bylaw and approved the grant of a special permit for a mixed-used development with a side yard setback less than that required by Section 5.3.8(A) along Lockeland Avenue without any articulation of "conditions unique" to the proposed project. The proposed setback for this project is de minimus and there are substantial and compelling conditions unique to this project to warrant relief.

The applicant cannot provide for a greater setback on the Clark Street side of the property and proceed with this project. Accordingly, the Board must balance the overall benefits of this project as detailed hereinabove and the uniqueness of the project in determining whether the revitalization of this area supports the exercise of its discretion as to the Clark Street setback. The applicant suggests that clearly the Board can reach a conclusion that there are specific conditions "unique to the proposal" and that the numerous Project benefits warrant the exercise of its discretion to reduce the Clark Street setback. If the Board does not do so, the applicant is unable to proceed with the project. Frankly, I would suggest that if the Board does not do so, the failure

Jennifer Raitt, Director
August 10, 2020
Page 7

to do so will be viewed as “arbitrary and capricious” in light of other projects where such relief was granted.

Finally, this proposed project is in clearly in keeping with the key findings in the Master Plan authored at the direction of this Board, including without limitation, the fact that: (a) Massachusetts Avenue “can support mixed-use development commensurate with its function as Arlington’s primary commercial corridor”; (b) “increased density through greater building heights and massing would benefit the corridor from an urban design perspective and benefit the Town from a fiscal perspective”; and (c) “Arlington’s growth management priorities must be Massachusetts Avenue . . .” This Board authorized the development of this plan and should implement it.

The applicant suggests that this project comports with the purposes of the Bylaw to, inter alia, “achieve optimum environmental quality through review and cooperation by the use of incentives, bonuses and design review; and to preserve and increase its amenities and to encourage an orderly expansion of the tax base by utilization, development and redevelopment of land.” The proposed project also comports with the Master Plan commissioned by the Town.

- Driveway

Pursuant to the Board’s request, Plan C-2 – the site layout plan, provides additional detail as to the driveway, including the slope and driveway clearance. As previously noted, the driveway slope is well below Department of Transportation requirements.

A site plan is attached which indicates the size of the service truck the site can accommodate and the turning radius.

- Existing Trees, Proposed Plantings and Trees and Retaining Wall

There are three (3) trees which make up the existing canopy. They are identified on plan C-1 – Existing Conditions Plan. The largest tree is located on a property abutting the proposed hotel site. The overhang may be trimmed but the tree will not be removed.

The tree in the center of the plan is in the middle of the proposed driveway. It will be removed. The intention is to retain the tree near the right property line. Provided, however, this will depend ultimately on construction considerations and the health of the tree. All of these trees are Norway Maples.

The applicant is substantially increasing the landscaped areas, specifically by 40%. Numerous trees will be placed along the rear property line, including Blue Pines, which will provide more screening particularly during the winter months.

KRATTENMAKER O'CONNOR & INGBER P.C.

Jennifer Raitt, Director
August 10, 2020
Page 8

The landscape plan attached as L1.2 identifies the proposed trees and plantings and the sizes.

The building inspector has reviewed the retaining wall on the plans and advised it is in compliance with the Bylaws.

- Landscaping and Open Space Calculations

Plan C-2 contains, inter alia, the open space and landscaped area calculations. The proposal provides for 19.4% open space or 4,492 square feet of open space, which consists of 1,933 square feet of landscaped space, 2,315 square feet of patio space and 244 square feet of sidewalk.

- Elevations

Renderings for various street views are enclosed as well as building elevations. See plans A.4.1 and A.4.2.

- Delivery Protocols

As detailed hereinabove, the updated submittals provide information as to the size truck that can safely travel into the rear of the site.

In addition to rubbish disposal trucks, which will access the site, there will be vehicles delivering food to the restaurant, as well as vans delivering linens and cleaning supplies. The vehicles, with the exception of the rubbish truck, will be substantially smaller in size and will have the ability to utilize the front or rear driveways for loading and unloading.

The applicant will use his best efforts to schedule deliveries midday between 8:30 a.m. and 2:00 p.m. However, deliveries and rubbish removal will not occur before 7:00 a.m. or after 7:00 p.m. Monday-Saturday.

- Shadow Study

The petitioner has previously provided the Board with a shadow study. Subsequently, a resident, Don Seltzer, who is not an abutter to this proposed development, submitted an "Extended Shadow Study for Hotel Lexington Project," so-called. He has apparently updated his conclusions. I reiterate that Mr. Seltzer is not an expert in the field and his submission is not competent evidence upon which the Board may rely. The Board is required to consider reports and studies prepared by experts in the respective fields. As the attorneys on the Board well know, the Board plays the role of "gatekeeper" with the responsibility as a matter of law to ensure the expert testimony is

Jennifer Raitt, Director
August 10, 2020
Page 9

both reliable and relevant. Clearly, Mr. Seltzer's testimony is not reliable as he is neither an expert in the field nor impartial. Using his theory, the applicant would be able to perform its own traffic study if the applicant believed he/she was competent enough to prepare traffic counts, collect data, analyze the data and opine. This is not how it is done for obvious reasons.

The enclosed shadow study was updated based on the site topography and not a flat plane. The study was prepared by Lincoln Architects, a qualified expert in the field.

- Traffic Impact Report

Michael Santos, a professional engineer and a certified professional traffic operations engineer associated with BSC Group, Inc., has previously submitted a traffic information summary dated January 16, 2020.

In his January 16, 2020 summary, he concluded that: (a) the proposed project is expected to have a minimal impact on the surrounding roadway network through most of the day; (b) the periods that would experience the most impact will occur during off-peak commuter hours, i.e. hotel check-in and check-out; (c) the proposed restaurant will have the highest impact after the weekday evening commuter peak hours when traffic volumes are typically lower; (d) there will be no right turns from the parking area onto Clarke Street northbound; and (e) all deliveries and trash removal service will occur onsite.

The applicant previously provided to Director Raitt and Chairman Muse of the Traffic Advisory Committee, the letter prepared by Mr. Santos dated July 22, 2020, which responds to two questions raised at the July 6, 2020 hearing. The two questions raised were : (a) traffic volumes at the intersection of Massachusetts Avenue/Lowell Street; and (b) pedestrian and bicycle counts conducted in February, 2020.

In his July 22, 2020 letter, Mr. Santos concludes that traffic operations at the intersection of Massachusetts Avenue at Lowell Street would continue to operate well below capacity and would experience slightly increased delays.

Mr. Santos concludes that pedestrian and bicycle activity will not materially change the results of the operations analysis or the conclusions presented.

The construction plan set to be submitted to the Board shall also include wayfaring signage, which will include no right turn onto Clark Street and appropriate enter and do not enter signs for the Massachusetts Avenue entrance.

KRATTENMAKER O'CONNOR & INGBER P.C.

Jennifer Raitt, Director
August 10, 2020
Page 10

- Plan Revisions

The architectural plans have been revised to reflect various comments from the Board members and residents. Some of the revisions include the reduction in height of the front bay windows, the widening of the band around the front of the building, change in style of the rear fourth floor windows, relocation of the equipment screening on the roof, additional shrubbery and landscaping at the front and side of the property, a change in materials for the railing and the balcony level of the fourth floor, and the removal of the sign facing Clarke Street.

- Submittals

Enclosed are the following additional submittals and/or information as requested by the Board:

- Updated plan set, which includes a key for the proposed exterior construction materials. There also was a request to change the materials for the railing at the balcony level at the fourth floor. The railing has been changed to tempered glass.
- Building elevations.
- July 22, 2020 letter from BSC Group, which was previously provided to Director Raitt and Chairman Muse.

It is now time to render a decision on this project. On behalf of the applicant, I thank the Board and Ms. Raitt for the significant amount of time and input they have provided on this project.

Very truly yours,


Mary Winstanley O'Connor

MWO/ccg
Enclosures
6214

cc: James F. Doherty

July 22, 2020

Town of Arlington Redevelopment Board
730 Massachusetts Avenue Annex
Arlington, MA 02476

RE: 1207-1211 Massachusetts Avenue
Traffic Study Response

Dear Arlington Redevelopment Board:

This letter is in response to comments that were brought to BSC's attention related to the traffic study we prepared for the proposed hotel development at 1207-1211 Massachusetts Avenue (the "Project"). The two issues that were raised include the following:

- Traffic volumes at the intersection of Massachusetts Avenue/Lowell Street
- Pedestrian and bicycle counts conducted in February 2020

Traffic Volumes at Massachusetts Avenue/Lowell Street

Due to the ongoing COVID-19 pandemic, reliable traffic data could not be conducted at the intersection of Massachusetts Avenue at Lowell Street for the Traffic Impact and Access Study (TIAS) prepared for the Project. In lieu of traffic data collection efforts, historical traffic data was obtained from the most recent available traffic study that provided traffic counts along Lowell Street.

The traffic counts used in the operations analysis for the intersection of Massachusetts Avenue at Lowell Street were obtained from a traffic impact study prepared in 2016 for a residential development located at 19R Park Avenue. The traffic volumes used in that study were based on counts conducted in October 2016. That traffic study included weekday morning and evening peak hour turning movement volumes for the intersection of Park Avenue/Lowell Street/Westminster Avenue/Bow Street. The traffic volumes along the Lowell Street leg of that intersection were adjusted upwards by 2 percent per year and used in the analysis prepared for the proposed hotel development. The through movements along Massachusetts Avenue at the intersection with Lowell Street were balanced from the traffic counts conducted at the intersection of Massachusetts Avenue/Appleton Street/Appleton Place conducted in 2020.

To provide an updated and more conservative analysis, BSC increased the 2025 Build Condition turning movements at the intersection of Massachusetts Avenue at Lowell Street by 30 percent. The following table presents the updated traffic operations analysis with the 30 percent increase in turning volumes at the intersection:

Engineers
Environmental
Scientists
Custom Software
Developers
Landscape
Architects
Planners
Surveyors



**Traffic Operations Analysis Summary
Massachusetts Avenue at Lowell Street**

	2025 Build Conditions from TIAS				2025 Build Conditions with Volume Adjustments			
	Delay	LOS	v/c	95th queue	Delay	LOS	v/c	95th queue
WEEKDAY MORNING PEAK HOUR								
Massachusetts Avenue/Lowell Street								
Massachusetts Avenue EB L/T	0.3	A	0.01	1	0.3	A	0.01	1
Massachusetts Avenue WB T/R	0.0	A	0.37	0	0.0	A	0.39	0
Lowell Street SB L/R	21.6	C	0.42	51	26.5	D	0.55	80
WEEKDAY EVENING PEAK HOUR								
Massachusetts Avenue/Lowell Street								
Massachusetts Avenue EB L/T	0.2	A	0.01	1	0.2	A	0.01	1
Massachusetts Avenue WB T/R	0.0	A	0.29	0	0.0	A	0.33	0
Lowell Street SB L/R	19.1	C	0.36	40	22.8	C	0.48	63

As shown in the table above, traffic operations at the intersection of Massachusetts Avenue at Lowell Street would still operate well below capacity and would experience slightly increased delays when compared to the results that were presented in the original TIAS prepared for the Project (a 4.9 second increase during the weekday morning peak hour and a 3.7 second increase during the weekday evening peak hour along the Lowell Street southbound approach). Based on this conservative analysis, vehicular operations at the intersection are expected to be acceptable, with maximum queues of around 3 vehicles during the peak hours. The applicable operations analysis worksheets are provided as an attachment to this letter.

Pedestrian and Bicycle Counts

Pedestrian and bicycle counts were conducted concurrently with the February 2020 TMCs. There was a comment made that pedestrian and bicycle activity may have been low when the counts were conducted due to the prevailing weather conditions and temperatures.

Pedestrian activity along Massachusetts Avenue during the peak hours is related to people walking to/from bus stops, local businesses, and for leisure purposes. Bicycle activity is mostly related to commuting patterns and recreational activity. The seasonality of pedestrians during the peak hours is less likely to fluctuate due to many people needing to use public transportation for commuting purposes and to access local businesses throughout the year. Bicycling is affected by seasonality due to people being less likely to ride in inclement weather. People are more likely to use public transportation and personal vehicles for commuting purposes. Bicycling for recreational purposes will also decrease during the colder months.

Adjustments to pedestrian and bicycle activity will not materially change the results of the operations analysis or the conclusions presented in the TIAS. A qualitative evaluation of the pedestrian and bicycle infrastructure is better suited to addressing existing geometric and safety deficiencies, which do not require a technical analysis based on count data



collected over the course of a few hours during the peak periods on a specific day.

Please do not hesitate to contact our office with any inquiries you may have.

Very truly yours,

BSC Group, Inc.

Michael A. Santos, PE, PTOE
Project Manager

cc: James F. Doherty
Mary Winstanley O'Connor

Attachments:
Intersection Operations Analysis Worksheets

	EBL	EBT	WBT	WBR	SBL	SBR
Movement						
Lane Configurations		←	←		←	←
Traffic Volume (veh/h)	6	347	446	114	178	6
Future Volume (Veh/h)	6	347	446	114	178	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	8	463	531	136	193	7
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	697				1138	659
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	697				1138	659
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
pD queue free %	99				46	99
cM capacity (veh/h)	883				358	589
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	471	667	200			
Volume Left	8	0	193			
Volume Right	0	136	7			
cSH	883	1700	363			
Volume to Capacity	0.01	0.39	0.55			
Queue Length 95th (ft)	1	0	80			
Control Delay (s)	0.3	0.0	26.5			
Lane LOS	A		D			
Approach Delay (s)	0.3	0.0	26.5			
Approach LOS			D			
Intersection Summary						
Average Delay		4.1				
Intersection Capacity Utilization		49.8%		ICU Level of Service	A	
Analysis Period (min)		15				

* User Entered Value

	EBL	EBT	WBT	WBR	SBL	SBR
Movement						
Lane Configurations		↰	↰		↰	↰
Traffic Volume (veh/h)	6	441	260	217	163	6
Future Volume (Veh/h)	6	441	250	217	163	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	8	588	296	258	177	7
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	586				1091	487
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	586				1091	487
IC, single (s)	4.1				*5.0	*5.0
IC, 2 stage (s)						
IF (s)	2.2				*3.0	*3.0
p0 queue free %	99				53	99
cM capacity (veh/h)	970				376	700
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	596	556	184			
Volume Left	8	0	177			
Volume Right	0	258	7			
cSH	970	1700	382			
Volume to Capacity	0.01	0.33	0.48			
Queue Length 95th (ft)	1	0	63			
Control Delay (s)	0.2	0.0	22.8			
Lane LOS	A		C			
Approach Delay (s)	0.2	0.0	22.8			
Approach LOS			C			
Intersection Summary						
Average Delay		3.2				
Intersection Capacity Utilization		46.6%		ICU Level of Service	A	
Analysis Period (min)		15				

* User Entered Value

KRATTENMAKER O'CONNOR & INGBER P.C.

ATTORNEYS AT LAW

ONE MCKINLEY SQUARE
BOSTON, MASSACHUSETTS 02109
TELEPHONE (617) 523-1010
FAX (617) 523-1009

August 12, 2020

CHARLES G. KRATTENMAKER, JR.,
MARY WINSTANLEY O'CONNOR
KENNETH INGBER

OF COUNSEL: RAYMOND SAYEG

VIA EMAIL

Jennifer Raitt, Director
Department of Planning and Community
Development
Town of Arlington
730 Massachusetts Avenue
Arlington, MA 02476

Re: August 6, 2020 Report by the Transportation Advisory Committee
Docket No. 3602

Dear Director Raitt:

I am responding on behalf of the applicant to the report prepared by the Transportation Advisory Committee dated August 6, 2020, which I did not receive until the afternoon of August 10, 2020 (hereinafter referred to as "TAC" and the "Memorandum", respectively).

I will respond to TAC's comments in the order in which the comments appear in the Memorandum:

- Massachusetts Avenue at Appleton Street and Appleton Place

The issues at this intersection were not created by the applicant and will not be further negatively impacted by the proposed project. It is the applicant's understanding that the unusual geometry of the intersection and glare were the primary cause of the unfortunate bicycle fatality at this intersection.

The duty to improve this area is the responsibility of the Town. Frankly, I would have expected that TAC would have by now focused on safety improvements that will benefit all residents and businesses that utilize this area. To attempt to shift this burden to the applicant is inequitable and inappropriate.

The applicant has agreed to pay the Town of Arlington thirty percent (30%) more than the fair market value of the property at 1207 Massachusetts Avenue, a property I would suggest would otherwise have little marketable value.

I respectfully suggest that the attempt to extract from the applicant funds for "mitigation improvements" at this site constitutes an impermissible tax and/or impermissible fee.

Jennifer Raitt, Director
August 12, 2020
Page 2

In *Greater Franklin Developers Association, Inc. v. Town of Franklin*, 49 Mass. App. Ct. 500, 502 (2000), the Appeals Court affirmed the lower court ruling that requiring a developer to pay a "school impact fee" to ensure that the proposed development bore a proportionate share of the cost of capital facilities necessary to accommodate the residences it was building and to promote and protect public health, safety and welfare was invalid.

The Appeals Court held that the attempt to charge the developer a fee was without basis. In dicta, the Appeals Court stated that fees "share common traits that distinguish them from taxes: [1] they are charged in exchange for a particular governmental service which benefits the party paying the fee in a manner 'not shared by other members of society'; [2] they are paid by choice, in that the party paying the fee has the option of not utilizing the governmental service and thereby avoiding the charge; and [3] the charges are collected not to raise revenue but to compensate the government entity providing the services for its expenses." Quoting *Emerson College v. Boston*, 391 Mass. 415, 424-425 (1984).

Here, the applicant is not seeking any particular government services but, as a condition of the proposed project, is being asked to essentially pay a fee to obtain the special permit for the project for traffic mitigation measures neither occasioned nor exacerbated by the proposed project and for measures that clearly are shared by other residents in the Town.

This attempt to extract the costs for the mitigation measures is patently unfair and, I would suggest, based on the traffic impact study wholly inappropriate.

Any mitigation measures which the Town decides to take at this intersection will be funded, in part, by the substantial increase in real estate taxes once the site is developed and the hotel tax the Town will collect.

The Town has determined that improvements are necessary at this intersection irrespective of any other uses in the area. It is the Town's obligation, not the applicant's, to address and fund any measures. To expect the applicant to do so is patently unfair and an improper attempt to extract from the applicant a fee to address a long-standing issue that the applicant neither created nor will exacerbate by his proposed use.

- Parking and Traffic

Clearly, Town Meeting when it voted to grant to the Board the ability to reduce parking in business, industrial and multifamily residential zones to twenty-five percent (25%) of

KRATTENMAKER O'CONNOR & INGBER P.C.

Jennifer Raitt, Director
August 12, 2020
Page 3

the parking required in the table of off-street parking regulations (Article 6, Section 6.1.5) understood that customers visiting the businesses at these mixed-use developments would be parking on the public streets of Arlington.

I would suggest to you that the patrons of the proposed restaurant that do not walk to the site will be parking on public streets in the area much like: (a) the prospective patrons of the pub at 1314 Massachusetts Avenue for which a special permit was recently approved; and (b) the prospective patrons of the retail marijuana dispensary that was approved at 1386 Massachusetts Avenue.

This Board issued a special permit for the proposed use at 1314 Massachusetts Avenue and concluded that patrons could park on streets surrounding the area. This Board approved the marijuana dispensary which will offer twelve (12) spaces for a business expected to generate "105-160 customers per hour" and an increase of one hundred forty-two (142) vehicles to the site or two hundred eighty-three (283) trip ends. These two special permits will result in substantial increased traffic in the area, including at an intersection (Park Avenue and Massachusetts Avenue) which is heavily travelled.

On July 20, 2020, this Board approved a special permit for 882-892 Massachusetts Avenue, a project directly across from Arlington High School, which would require thirty (30) spaces, twenty-four (24) of which spaces would be required for prospective residents, who will be primarily exiting and entering the site during the peak a.m. and p.m. hours and while students are walking to Arlington High School.

I want to be clear; I am a proponent of the orderly expansion of the commercial space along Massachusetts Avenue. It is in keeping with the goals outlined in the 2015 Master Plan. However, applicants need to be treated equitably and fairly.

Here, you have a use that by its very nature is not introducing vehicles into the roadway during the morning commute or during school hours. This is a hotel in which checkout is usually 11:00 a.m. or noon and check-in which is at 3:00 p.m. or 4:00 p.m. In addition to the off-peak hours, hotel guests check out and in at staggered times.

The restaurant patronage would generally occur during the evening hours.

Here, the applicant is proposing twenty-four (24) parking spaces, exclusively serviced by a valet with the ability to have eight (8) tandem spaces. Contrary to the conclusion of TAC, the applicant's civil engineer has confirmed that the eight (8) tandem spaces can be accommodated.

Jennifer Raitt, Director
August 12, 2020
Page 4

Unfortunately, it appears that TAC was not provided the applicant's transportation demand management plan or the updated information concerning employee parking submitted by the applicant.

In any event, the traffic study done by BSC Group concludes that "no additional mitigation or capacity enhancements are necessary at the study intersections or on the surrounding transportation infrastructures to accommodate the Project."

The criteria you must consider in deciding whether to grant the special permit requested includes a determination whether "the requested use will not create undue traffic congestion or unduly impair pedestrian safety." (emphasis supplied). Bylaw, Article 3, Section 3.3.3(c).

As a matter of fact and law, this means to deny this permit on the basis of traffic congestion that you must make specific findings, not that the proposed use will create some traffic congestion but that the purported additional traffic will result in excessive traffic congestion.

The expert evidence presented establishes that the proposed project will not create excessive traffic congestion. No objective evidence has been presented which will enable the Board to make a finding that the proposed project will create undue traffic congestion. Indeed, I would suggest that the decisions referred to above prevent the Board from reaching such a conclusion. Accordingly, the applicant satisfies this criteria of the Bylaw.

- Standards in the Industry

It is accepted practice to utilize trip generations of former uses of a property to ascertain the additional trip counts. Should the applicant be penalized because 1207 Massachusetts Avenue has not been utilized?

In the unfortunate event that there are closures in the Town of other buildings and/or businesses particularly related to business hardship due to the pandemic, is the Board going to adopt a position ignoring the industry adopted method for determining additional trips as provided for by the ITE?

If the position of the Board is to adopt this position, the likelihood of anyone purchasing 1207 Massachusetts Avenue, a nonconforming undersized lot, which as a matter of law under the Bylaw can only be developed as a mixed-use development will not likely occur.

Jennifer Raitt, Director
August 12, 2020
Page 5

Moreover, the applicant's traffic engineer applied a 2% traffic growth for his five year projection, which is a very conservative growth rate even if you were to remove the trips generated by 1207 Massachusetts Avenue from the calculation. The applicant's traffic engineer has informed me that a one percent traffic growth rate for a highly developed urban area like Arlington would be more typical. Here, he utilized a five-year projection with a 2% traffic growth rate.

- Pedestrian/Bicycle Volumes

The archives of WBZ news indicate that the weather on Tuesday, February 4, 2020, the date used for the collection of data for the traffic impact study, was, in fact, in the high 40's. Such weather would result in an increase in pedestrian and bicycle traffic for a winter day. I submit it is disingenuous to suggest otherwise.

There is a flashing light at the intersection of Appleton Street, Appleton Place and Massachusetts Avenue that can be utilized by cyclists and pedestrians.

As Mr. Santos opines in his letter of July 22, 2020, which supplements his report, "adjustments to pedestrian and bicycle activity will not materially change the results of the operations analysis or the conclusions presented in the TIAS." Further, Mr. Santos states that the number of bicyclists and pedestrians in the area is not "relevant to determine improvements" at the intersection of Appleton Street, Appleton Place and Massachusetts Avenue. The Town is intending to make improvements irrespective of whether this project is developed.

As set forth hereinabove, Article 3, Section 3.3.3(c) requires that you consider and determine whether the proposed use by the applicant will "unduly impair pedestrian safety." (emphasis supplied). Bylaw, Article 3, Section 3.3.3(c). The inquiry is not whether the project will have some impact but whether the proposed project will impair pedestrian safety to an unwarranted degree.

No object evidence has been presented which would enable this Board to make a finding that the project will impair pedestrian safety to an unwarranted degree. Accordingly, the applicant satisfies this criteria in the Bylaw.

- Improvements

The applicant will agree to the following improvements at his cost and expense:

- The repair of the sidewalk/curb between Massachusetts Avenue and the project along the site frontage of Clark Street.

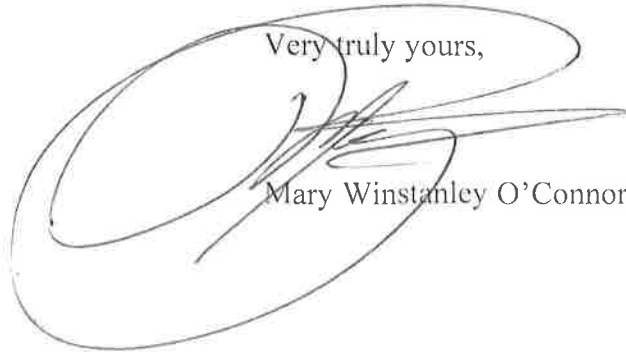
KRATTENMAKER O'CONNOR & INGBER P.C.

Jennifer Raitt, Director
August 12, 2020
Page 6

- The installation of an ADA-compliant ramp and a detectable warning panel only on the corner of Clark and Massachusetts Avenue abutting his property.
- Installation of a sidewalk on the east side of the semi-circle driveway. However, due to grade issues, the sidewalk will require the installation of several steps. This approach from the east will not be handicapped accessible. The handicapped accessible ramp will be available for access.
- The driveway slopes, as confirmed by the applicant's civil engineer, comply with the ADA. Further, all public access to the property is ADA complaint as confirmed by the applicant's civil engineer. In any event, this is a building department compliance issue.

In advance, I thank the Board and Director Raitt for their consideration of this application. It is now time to make a decision on this project.

Very truly yours,

A large, stylized handwritten signature in black ink, appearing to read 'Mary Winstanley O'Connor', is written over the typed name.

Mary Winstanley O'Connor

MWO/ccg
6214

From: "Jillian Harvey" <JHarvey@town.arlington.ma.us>
To: "Cynthia DeAngelis" <cynthia.deangelis@icloud.com>, abunnell@town.arlington.ma.us, klau@town.arlington.ma.us, "Jenny Raitt" <JRaitt@town.arlington.ma.us>
"Paul Raia" <paulraiaphd@gmail.com>, "Paul Parravano" <paulp@mit.edu>, "Maureen" <Maureenhilaire@verizon.net>, "Darcy Devney" <dcd.alist@gmail.com>, "ellen leigh" <ellen.leigh3@gmail.com>, "Liza Evaluation Researchers" <evaluationresearchers@gmail.com>, "Michael Rademacher" <mrademacher@town.arlington.ma.us>, "Douglas Heim" <dheim@town.arlington.ma.us>, "kerrie fallon" <fallonk1@edinburgcenter.org>, "Karen Mathiasen" <karen_mathiasen@alum.mit.edu>, "Grace Carpenter" <gmcarpenter1@gmail.com>
Cc:
Date: 08/07/2020 12:16 PM
Subject: Re: Lexington Hotel -

Good afternoon,

I am forwarding along this email on behalf of the Disability Commission. Please see below.

Thank you,
Jillian

Jillian Harvey
She/Her/Hers
Diversity, Equity and Inclusion Coordinator
Health and Human Services
27 Maple Street
Arlington, MA 02476
781-316-3250
jharvey@town.arlington.ma.us
www.arlingtonma.gov

From: Cynthia DeAngelis <cynthia.deangelis@icloud.com>
To:
Cc: Jillian Harvey <JHarvey@town.arlington.ma.us>, Paul Raia <paulraiaphd@gmail.com>, Paul Parravano <paulp@mit.edu>, Maureen <Maureenhilaire@verizon.net>, Darcy Devney <dcd.alist@gmail.com>, ellen leigh <ellen.leigh3@gmail.com>, Liza Evaluation Researchers <evaluationresearchers@gmail.com>, Michael Rademacher <mrademacher@town.arlington.ma.us>, Douglas Heim <dheim@town.arlington.ma.us>, kerrie fallon <fallonk1@edinburgcenter.org>, Karen Mathiasen <karen_mathiasen@alum.mit.edu>, Grace Carpenter <gmcarpenter1@gmail.com>
Date: Fri, 7 Aug 2020 11:58:19 -0400
Subject: Lexington Hotel -

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Dear Andrew, Kin Lau and Jenny,

I am the Chair of the disability commission of the Town of Arlington. We are an appointed group of commissioners by the Town Select Board to insure that our community complies with ADA and other compliance as it relates to all areas of disability and inclusion. I am writing to you on behalf of the commission.

Recently, we received a complaint that includes the following:

I would like to bring to your attention the pending Hotel Lexington proposal before the redevelopment board. It does not appear that the applicant has bothered to provide any accessible rooms in the 50 room hotel. The latest plans show very small rooms with passage ways between the furniture of not more than 24". The bathrooms with doors swinging inward, do not seem to meet ADA standards.

There is a single Handicapped parking space in the rear lot, located on a steep (at least 5%) driveway. From my limited understanding of state requirements for accessibility, these conditions fall woefully short of compliance.

71 of 826

The Commission would ask that the vote with the redevelopment board be postponed until the commission can review the plans and ensure that the plans are both ADA compliant and inclusive.
We have not as yet studied the plans at at first glance, it would appear they would need 3- HP accessible rooms with at least a "wheel-in-shower" , which is not obvious in the plans.
As a 50 room hotel, the developer is asking for a variance to 32 spaces. (AAB rules say if 26-50 spaces, 2 must be HP).

We invite both the developer and whoever they feel is necessary to our next meeting. They may contact Jill Harvey above. Our meetings are the third Wednesday of the month from 4-6. I will be putting the developers plans on the agenda for this month. Commissioners, please review in preparation at :
<https://www.arlingtonma.gov/Home/Components/New/News/9931/3864>

Our interest is to work collaboratively with the developer and the town so that mistakes are not made that ultimately are not in the best interest of our community and its citizens and visitors with disabilities.
We look forward to hearing from you soon.

Feel free to call me should you need to discuss this further.

All the Best,
Cynthia

Cynthia DeAngelis, M.Ed.
Educational Consultant
339-368-0931
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Helping Students Achieve Success
Helping Parents Make Informed Decisions
Helping Educators Find Unique Solutions

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From: Mary O'Connor <moconnor@koilaw.com>
To: Jenny Raitt <JRaitt@town.arlington.ma.us>
Cc: Doug Heim <DHeim@town.arlington.ma.us>
Date: 08/13/2020 10:02 AM
Subject: RE: Lexington Hotel -

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Dear Jenny,

Thank you for forwarding the email chain. The Commission's request that the ARB postpone a vote on the request for the requested special permit for this project so the Commission may review the project is wholly inappropriate for several reasons. The ARB's responsibility is to apply the criteria set out in Article 3, Section 3.3.3 in determining whether a special permit should issue. Any review as to compliance with the standards set out in 521 CMR 1, et seq. is premature as the 90% plans are not complete at this point and need not be complete at this point for approval. Further, and more importantly, it is the duty of the Arlington building Inspector, not the ARB, to determine whether the proposed project is in compliance with applicable building codes, including the above referenced statute.

As you know, the building inspector must determine that the project complies with applicable building codes and the AAB requirements before issuing a building permit and before issuing a certificate of occupancy.

Perhaps the Commission would be better able to provide commentary when they review more detailed plans and have an opportunity to review 521 CMR 1, et seq. in greater detail. By way of example, 521 CMR 23.8 provides that where valet parking facilities are provided, 521 CMR 23.2 and 521 CMR 23.4.7, the provisions which reference the provision of handicapped parking spaces and van spaces, do not apply.

I appreciate the work and dedication of the Commission. However, any attempt at this juncture to prevent action on this request for a determination on the special permit by the ARB sending it to the Commission for consideration would be an abuse of authority, arbitrary and capricious. Further, any attempt to derail a vote on this project by postponing it, I suggest, rises to the level of constituting a violation of Mr. Doherty's right to procedural due process, substantive due process and equal protection and treatment under the applicable laws and regulations.

Please feel free to contact me if you need to discuss this matter further. Kindest regards. Mary

Mary Winstanley O'Connor, Esq.
Krattenmaker O'Connor & Ingber P.C.
One McKinley Square, Fifth Floor
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Telephone 617.523.1010 Ext. 223
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From: Jenny Raitt <JRaitt@town.arlington.ma.us>
Sent: Thursday, August 13, 2020 6:58 AM
To: Mary O'Connor <moconnor@koilaw.com>
Subject: Fwd: Lexington Hotel -

Do you also want to respond to this in your letter?

Begin forwarded message:

From: Paul Raia <paulraia@dphd@gmail.com>
Date: August 11, 2020 at 2:29:03 PM EDT
To: Jenny Raitt <JRaitt@town.arlington.ma.us>
Cc: Cynthia DeAngelis <cynthia.deangelis@icloud.com>
Subject: Re: Lexington Hotel -

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Jenny,

Thank you for this information.

I am a novice regarding the steps involved in getting a building permit. I just wanted to make sure that the Disabilities Commission had an early opportunity to review the interior and exterior proposal before a permit is granted to the Lexington Hotel.

We would like to share our technical knowledge and life experiences so that any proposed building in Arlington meets ADA regulations, follows inclusive design principles, and is in the spirit of Arlington as an officially designated "Age Friendly Community".

Again, thank you for helping me to understand the process.

Be well,

Paul Raia

Sent from my iPhone excuse typos

On Aug 11, 2020, at 9:27 AM, Jenny Raitt <JRaitt@town.arlington.ma.us> wrote:

74 of 826

Paul,

The development is under review by the Redevelopment Board which issues Special Permits. If a permit is granted, the proponent files an application for a building permit through the Department of Inspectional Services. I would be glad to share your letter with the Building Inspector as well.

Jenny

On Aug 11, 2020, at 9:18 AM, Paul Raia <paulraiaphd@gmail.com> wrote:

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Question. Should our letter also go to the Town Board that grants building permits?

Thanks,
Paul Raia

Sent from my iPhone excuse typos

On Aug 11, 2020, at 8:50 AM, Jenny Raitt
<JRaitt@town.arlington.ma.us> wrote:

Jill and Commissioners,

Thank you for your comments to the Board. We will share and discuss these comments with the applicant and will be in touch to follow-up accordingly.

Regards,

Jennifer Raitt
Director, Department of Planning and Community Development
Town of Arlington

From: "Jillian Harvey" <JHarvey@town.arlington.ma.us>
To: "Cynthia DeAngelis" <cynthia.deangelis@icloud.com>, abunnell@town.arlington.ma.us, klau@town.arlington.ma.us,
"Jenny Raitt" <JRaitt@town.arlington.ma.us>
Cc: "Paul Raia" <paulraiaphd@gmail.com>, "Paul Parravano" <paulp@mit.edu>, "Maureen" <Maureenhilaire@verizon.net>, "Darcy Devney" <dcd.alist@gmail.com>, "ellen leigh" <ellen.leigh3@gmail.com>, "Liza Evaluation Researchers" <evaluationresearchers@gmail.com>, "Michael Rademacher"

75 of 826

<mrademacher@town.arlington.ma.us>, "Douglas Heim"
<dheim@town.arlington.ma.us>, "kerrie fallon"
<fallonk1@edinburgcenter.org>, "Karen Mathiasen"
<karen_mathiasen@alum.mit.edu>, "Grace Carpenter"
<gmcarpenter1@gmail.com>
Date: Fri, 07 Aug 2020 12:16:23 -0400
Subject: Re: Lexington Hotel -

Good afternoon,

I am forwarding along this email on behalf of the Disability Commission. Please see below.

Thank you,
Jillian

Jillian Harvey
She/Her/Hers
Diversity, Equity and Inclusion Coordinator
Health and Human Services
27 Maple Street
Arlington, MA 02476
781-316-3250
jharvey@town.arlington.ma.us
www.arlingtonma.gov

From: Cynthia DeAngelis <cynthia.deangelis@icloud.com>
To:
Cc: Jillian Harvey <JHarvey@town.arlington.ma.us>, Paul Raia <paulraia.phd@gmail.com>, Paul Parravano <paulp@mit.edu>, Maureen <Maureenhilaire@verizon.net>, Darcy Devney <dcd.alist@gmail.com>, ellen leigh <ellen.leigh3@gmail.com>, Liza Evaluation Researchers <evaluationresearchers@gmail.com>, Michael Rademacher <mrademacher@town.arlington.ma.us>, Douglas Heim <dheim@town.arlington.ma.us>, kerrie fallon <fallonk1@edinburgcenter.org>, Karen Mathiasen <karen_mathiasen@alum.mit.edu>, Grace Carpenter <gmcarpenter1@gmail.com>
Date: Fri, 7 Aug 2020 11:58:19 -0400
Subject: Lexington Hotel -

CAUTION: This email originated from outside of the Town of Arlington's email system. Do not click links or open attachments unless you recognize the REAL sender (whose email address in the From: line in "< >" brackets) and you know the content is safe.

Dear Andrew, Kin Lau and Jenny,
I am the Chair of the disability commission of the Town of Arlington. We are an appointed group of commissioners by the Town Select Board to insure that our community complies with ADA and other compliance as it relates to all areas of disability and inclusion. I am writing to you on behalf of the commission.

Recently, we received a complaint that includes the following:
I would like to bring to your attention the pending Hotel Lexington proposal before the redevelopment board. It does not appear that the applicant has bothered to provide any accessible rooms in the 50 room hotel. The latest plans show

76 of 826

very small rooms with passage ways between the furniture of not more than 24". The bathrooms with doors swinging inward, do not seem to meet ADA standards.

There is a single Handicapped parking space in the rear lot, located on a steep (at least 5%) driveway. From my limited understanding of state requirements for accessibility, these conditions fall woefully short of compliance.

The Commission would ask that the vote with the redevelopment board be postponed until the commission can review the plans and ensure that the plans are both ADA compliant and inclusive.

We have not as yet studied the plans at at first glance, it would appear they would need 3- HP accessible rooms with at least a "wheel-in-shower", which is not obvious in the plans.

As a 50 room hotel, the developer is asking for a variance to 32 spaces. (AAB rules say if 26-50 spaces, 2 must be HP).

We invite both the developer and whoever they feel is necessary to our next meeting. They may contact Jill Harvey above. Our meetings are the third Wednesday of the month from 4-6. I will be putting the developers plans on the agenda for this month. Commissioners, please review in preparation at : <https://www.arlingtonma.gov/Home/Components/New/News/9931/3864>

Our interest is to work collaboratively with the developer and the town so that mistakes are not made that ultimately are not in the best interest of our community and its citizens and visitors with disabilities.

We look forward to hearing from you soon.

Feel free to call me should you need to discuss this further.

All the Best,
Cynthia

Cynthia DeAngelis, M.Ed.
Educational Consultant
339-368-0931
cynthia.deangelis@icloud.com

Helping Students Achieve Success
Helping Parents Make Informed Decisions
Helping Educators Find Unique Solutions

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**Town of Arlington
Legal Department**

Douglas W. Heim
Town Counsel

50 Pleasant Street
Arlington, MA 02476
Phone: 781.316.3150
Fax: 781.316.3159
E-mail: dheim@town.arlington.ma.us
Website: www.arlingtonma.gov

To: Arlington Redevelopment Board; Jennifer Raitt, Director of Planning and Community Development

From: Douglas W. Heim, Town Counsel

A handwritten signature in ink, appearing to be "DWH", enclosed within a circular scribble.

Date: August 13, 2020

Re: Docket No. 3602

Members of the Arlington Redevelopment Board ("ARB"), I write with respect to a series of concerns and criticisms regarding the role of this Office in advising you on the Special Permit Application for 1207-1211 Massachusetts Avenue, Docket No. 3602 because the Select Board has entered a Purchase and Sale Agreement with the applicant; and further to provide a public opinion on the scope and limitations of ARB authorities in environmental design review ("EDR") as a resource for the Board's general use whatever its ultimate decision is regarding Docket No. 3602, and to inform the public.

On the first score, the role of Town Counsel is to provide legal representation and advice to all Town officials, department, boards and commissions. To that end this Office provides direct legal counsel to a wide range of Town professionals and volunteers, and supervises the hiring and use of outside legal counsel as authorized by the Town Manager. As you can well imagine, the perspectives and priorities of every town official and board (or individual members of a board) do not always align perfectly. It is nonetheless the duty of this Office to faithfully represent you and other public officials and bodies in the discharge of your duties. Indeed there

are numerous and obvious examples of instances where this Office represents, the decisions, positions, and authorities of one board or official in the presence of disagreement among other officers of the Town as is typical in a Town form of Government. The alternative is not consistent with the Town form of government or the Arlington Town Manager Act, and courts unnecessary Balkanization of the Town's public bodies.

Hence, with respect the Select Board's interest in the sale of the property located at 1207 Massachusetts Ave (as authorized by Town Meeting), which is contingent upon receipt of a special permit from you for mixed use development, the suggestion that this Office would unduly influence or mislead the Board because of its role in representing the Town generally, or the Select Board, is an unmerited distraction. While I do not assume that such an articulation is necessary for ARB members, permit me to re-iterate that the ARB is within its authority to deny (or grant) such special permit applications based on the special permit criteria and EDR standards set forth in Zoning Bylaw and authorized, but not mandated by c. 40A sec. 9.

As a secondary matter, other members of the public have expressed concern about the provision of legal advice to ARB members or professional staff by conversation or less formal correspondence. This concern is understandable to a degree for a variety of reasons, though has practical and legal limitations. The Board is entitled to formally request written legal opinions. However, the Board, members of the Board, and other Town officials are also entitled to seek confidential legal advice and to ask legal questions in an attorney-client privileged manner not limited to written correspondence or memoranda. As a practical matter, legal questions can and do arise within a confined timeframes, or within finite resources available to this Office, which will not afford the ability to respond with "formal" opinions. Similarly, as a matter of common sense, in instances where a legal opinion has been expressed in e-mail correspondence shared with the Board, a formal memorandum is not required to validate such an opinion.

In the context of Docket No. 3602 and more broadly, members of the Board and staff made statements about the opinion of counsel on the ARB's scope of authority to modify Zoning Bylaw provisions and requirements as part of its EDR process. Fair and important questions about the basis of that opinion as expressed at your meeting (and its limitations) arose for interested persons therefrom, and as such, I have provided a detailed Memo for the ARB and public's information on said issue, which is not anchored specifically to Docket No. 3602, but fully states the opinion of this Office.



Town of Arlington, Massachusetts
Department of Planning & Community Development
730 Massachusetts Avenue, Arlington, Massachusetts 02476

Public Hearing Memorandum

The purpose of this memorandum is to provide the Arlington Redevelopment Board and public with technical information and a planning analysis to assist with the regulatory decision-making process.

To: Arlington Redevelopment Board

From: Jennifer Raitt, Secretary Ex Officio

Subject: Environmental Design Review, 1207-1211 Massachusetts Avenue, Arlington, MA
Docket #3602

Date: July 2, 2020

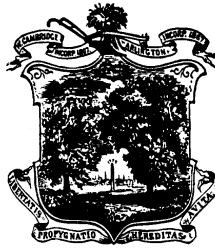
This memo is provided as an update to the last memo provided on May 14, 2020. The following items have been provided relative to this application:

1. The applicant provided an updated Traffic Impact and Access Study which was conducted in February 2020 and finalized in June 2020 by BSC Group. The study addresses key intersections in relation to this proposal as well as potential impacts on adjacent streets. The conclusion notes that the level of impact to streets and study area intersections is minimal and mitigation would not be needed.

The study notes the issues related to an area intersection. The Select Board formed a committee to study that intersection at Mass Ave and Appleton Street to devise solutions to address longstanding safety concerns. We can anticipate short-term roadway improvements while also awaiting long-term solutions. These solutions are likely to be beneficial to this intersection and subsequently to help address any increased traffic volume, pedestrians, and bicyclists.

2. The applicant provided a letter regarding available spaces for employees. The applicant did not provide any letter regarding layover parking for tour buses; Both the employee and tour bus shared parking agreements need to be incorporated into an amended Transportation Demand Management proposal.

3. The plans illustrate where patrons are dropped off and picked up. The plans also illustrate where and how delivery vehicles will load and unload, as well as the turning radius onto Clark Street from the project site.
4. The applicant provided a letter regarding the floor area ratio (FAR). The applicant has not provided calculations specific to the bonus provisions or open space.
5. The applicant provided a grading plan with spot elevations. The shadow study was updated according to those spot elevations.
6. The applicant provided an update plan showing sidewalk upgrades adjacent to the curb cut on Clark Street.
7. The applicant eliminated the secondary signage on Clark Street.
8. The applicant provided a photometric plan based on three lighting fixtures. Specifications are in the plan schedule.



Town of Arlington, Massachusetts
Department of Planning & Community Development
730 Massachusetts Avenue, Arlington, Massachusetts 02476

Public Hearing Memorandum

The purpose of this memorandum is to provide the Arlington Redevelopment Board and public with technical information and a planning analysis to assist with the regulatory decision-making process.

To: Arlington Redevelopment Board

From: Jennifer Raitt, Secretary Ex Officio

Subject: Environmental Design Review, 1207-1211 Massachusetts Avenue, Arlington, MA
Docket #3602

Date: May 14, 2020

This memo is provided as an update to the last memo provided on January 21, 2020. The following items have been requested and remain outstanding in relation to this application:

1. The Board requested an improved traffic study with a focus on Mass Ave, Lowell, Appleton, Forest, and the neighborhood adjacent to the project site, to determine how the use may impact circulation in the area, and to complete the study when school is in session (this last item is now hindered by the COVID-19 pandemic).
2. Provide updated plans or documents showing the following items:
 - a. Offsite shared parking agreement for employees;
 - b. Offsite shared parking agreement for tour buses;
 - c. Passenger and delivery loading and unloading, including showing the turning radius onto Clark Street from the project site;
 - d. Floor area ratio (FAR) calculation for the building, bonus, and open space;
 - e. Updated shadow study and updated elevations based upon a topographical study and site survey.
 - f. Plans for sidewalk upgrades adjacent to the curb cut on Clark Street.
 - g. Elimination or revision to secondary signage on Clark Street.
 - h. A detailed exterior lighting plan.



Town of Arlington, Massachusetts
Department of Planning & Community Development
730 Massachusetts Avenue, Arlington, Massachusetts 02476

Public Hearing Memorandum

The purpose of this memorandum is to provide the Arlington Redevelopment Board and public with technical information and a planning analysis to assist with the regulatory decision-making process.

To: Arlington Redevelopment Board

From: Jennifer Raitt, Secretary Ex Officio

Subject: Environmental Design Review, 1207-1211 Massachusetts Avenue, Arlington, MA Docket #3602

Date: January 21, 2020

Since the initial public hearing on July 22, 2019, the Department of Planning and Community Development (DPCD) staff and members of the Arlington Redevelopment Board (ARB) have provided feedback to the applicant, Jim Doherty, in relation to the above-noted Docket in different formats, including at the public hearing session, emails, and in-person meetings. This memo documents how the materials submitted by the applicant are responsive. Attached to this memo is correspondence that Attorney Winstanley-O'Connor responds to in her letter dated January 21, 2020.

1. Conduct a traffic study, with a focus on Mass Ave, Lowell, Appleton, Forest, and the neighborhood adjacent to the project site, determine how the use may impact circulation in the area, and complete the study when school is in session.

An overview of traffic information prepared by BSC Group was submitted by the applicant. This overview provides a good basis for understanding the potential trip generation of the mixed-use structure; however, it does not include an analysis of area circulation. It also does not provide an analysis of area intersections and does not provide any recommendations on how the trips generated by the proposal may be mitigated.

The overview by BSC Group notes that right turns onto Clark Street from the parking area will not occur as the parking will be controlled by the valet staff.

2. Show parking onsite and document any offsite parking for employees and tour buses.

The materials provided on January 21, 2020, indicate some adjustments were made to the garage parking and the surface parking to the rear of the building to accommodate moving the dumpster away from Clark Street. In the garage, four spaces were gained by adjusting the size of the parking spaces which are complaint with the Zoning Bylaw and slighting oversized. Five spaces were reduced in surface parking to provide an adequate size drive aisle for two-way traffic and access to the dumpster. At its narrowest, the two-way drive aisle does not comply with the required 24 feet, but it is noted that access is only available to valet and other delivery services in order to minimize vehicular conflicts.

No additional information has been provided regarding employee parking and tour bus parking. A reference to the Mill Brook Animal Clinic offering to provide additional off-site parking was made, but no formal documentation of a shared parking agreement has been provided.

3. Identify where and how passenger and delivery loading and unloading will occur, and determine whether delivery vehicles have the adequate turning radius onto Clark Street from the project site.

As noted above, the surface parking at the rear of the site was adjusted to provide more adequate space for loading and unloading of deliveries. The materials submitted on January 21, 2020, indicate that single-unit box trucks and smaller vehicles will be making deliveries to the site at the rear of the building. Additionally the dumpster was moved from Clark Street frontage to the interior of the site. However, no documentation is provided to illustrate the turning radii of the types of vehicles that would typically enter and exit the project site to make deliveries, so the feasibility of this could not be assessed.

The addition of the circular driveway off of Mass Ave will facilitate passenger loading and unloading outside of the public right-of-way limiting conflicts between pedestrians, bicycles, and other vehicles on Mass Ave. This is a better solution than the cut out of the sidewalk originally proposed. Outside of business hours, the circular driveway could be used for deliveries as well.

4. Provide information on the valet parking plan.

The information provided by BSC Group indicates that all parking onsite will be controlled by valet staff and there is no self-parking. There is no information about offsite parking provided.

5. Calculate the floor area ratio (FAR) for the building and the bonus and open space.

Exhibit A to Attorney Winstanley-O'Connor's memo is an accounting of the FAR for the building and how the bonus provisions of Section 5.3.6 apply to the proposal. Exhibit B to Attorney Winstanley-O'Connor's memo is an accounting of open space calculations.

6. Share a marketing study of similar hotels, including hotel operators, customer base, rack rates, and amenities.

The applicant has indicated that this information is proprietary and is not relevant to the relief being sought.

7. Re-evaluate the shadow study previously submitted to consider the existing shadows and provide a comparison and determine any impact to solar arrays in the neighborhood.

The plan set includes an updated shadow study based on the new building. The plan set also includes a shadow study documenting the existing conditions of the building and shows trees at the rear of the site.

Two properties with solar panels have been identified as 18 Pierce Street and 24 Clark Street. The property at 24 Clark Street is beyond the reach of the proposal's shadows, but it appears that the early afternoon shadow on the Winter Solstice will affect 18 Pierce Street.

8. Submit a revised LEED Checklist and make some assumptions to bring the credits up.

An updated LEED Checklist has been provided. The score has increased from 21 points to 52 points.

9. Show ADA accommodations in parking lot and along the Mass Ave frontage.

One accessible parking space has been designated in the rear surface parking lot. The reference to ADA accommodations along the frontage refers to the original version of the proposal which included a cut out in the sidewalk to provide a wider shoulder for loading and unloading.

10. Show any plans for sidewalk enhancement on Clark Street.

The plan set illustrates how the at-grade open space on the lot will be improved and activated and that a concrete sidewalk will be extended around the hotel on Clark Street. Further detail was not provided.

11. Improve the design of roof top mechanicals and kitchen venting.

The rendering shows more roof top mechanical equipment, but no roof plan was submitted or specifications for the roof top mechanical equipment or kitchen venting. The memo from Attorney Winstanley-O'Connor indicates that the final locations will be determined at a later stage.

12. Revisit the quantity and placement of louvers on the main façade of the building.

The louvers proposed on the façade have been eliminated.

13. Show additional bike parking at the front of the hotel.

Parking racks are proposed on Mass Ave rather than off of Clark Street in the current plan set. Relocating the bicycle parking to the main frontage is an improvement.

14. Re-evaluate the façade elevations including the materials proposed for the façade, the hierarchy between the restaurant and hotel entrances, the sliding doors on the fourth floor of the building, windows on the Clark Street elevation, and screening for the rear deck.

The materials proposed for the façade have been updated to reflect comments made by two members of the ARB who provided detailed feedback. The materials proposed now include brick, masonry, and clapboard panels, and the use of such materials is specified on the elevations.

The plan set has been revised to make the hotel entrance more prominent than the restaurant entrance.

Sliding doors are still proposed for the fourth floor hotel units.

The Clark Street elevation has been revised.

The rear deck has been eliminated from the proposal.

15. Re-evaluate the restaurant space planning and the location of the hotel gym.

The plan set has been revised to show no seating or space usage in the restaurant in response to a question regarding the accuracy of the seat count. Note that while the parking requirement for restaurants is based on the seat count, in mixed-use structures such as this one, the first 3,000 square feet of space is exempt from meeting the parking requirement. The restaurant is proposed at 2,816 square feet.

In the original proposal, the location of the gym required hotel guests to leave the interior of the building and then reenter the building elsewhere to access the gym. In this submission, the gym has been eliminated from the proposal.

16. Re-evaluate the secondary signage on Clark Street.

A wall sign remains on the Clark Street elevation for the restaurant.

17. Provide more details on the proposed lighting.

Attorney Winstanley-O'Connor's memo notes that the lighting will be energy efficient LED low profile lighting. Deflectors and other technology will be utilized, and a photometric study will be prepared prior to installation. The ARB may desire to see that photometric plan as well as lighting specifications to understand the type of fixtures to be used for the proposal and how it may or may not impact abutters.

Attachment:

1. Memo to Jim Doherty dated January 7, 2020.



TOWN OF ARLINGTON
DEPARTMENT OF PLANNING and
COMMUNITY DEVELOPMENT

TOWN HALL, 730 MASSACHUSETTS AVENUE
ARLINGTON, MASSACHUSETTS 02476
TELEPHONE 781-316-3090

MEMORANDUM

To: Jim Doherty, Trustee, 1211 Mass Ave Realty Trust

From: Jennifer Raitt, Director of Planning and Community Development

cc: Mary Winstanley-O'Connor, Esq.

Date: January 7, 2020

Re: Docket #3602, 1207-1211 Massachusetts Avenue supplemental materials and follow-up

Thank you for your submission of materials to my office on January 2, 2020 per my most recent memo and requests. The Department of Planning and Community Development (DPCD) staff reviewed the materials received, dated December 12, 2019, and note that they are an updated plan set that illustrates changes made to the site and the building in the intervening time since the public hearing in the summer 2019 based on feedback from staff and ARB members. This memo documents how the submitted materials respond to items outlined and annotated in two emails sent to you following the initial public hearing on this project on July 22, 2019.

In an email from Erin Zwirko, Assistant Director, to you dated July 24, 2019, the staff enumerated the items that were requested by the Arlington Redevelopment Board (ARB) members during the initial public hearing session:

1. Traffic Study, with a strong focus on Mass Ave, Lowell, Appleton, Forest, and the neighborhood behind the project site and circulation in the area, and completed when school is back in session;

DPCD has not yet received a traffic study.

2. Parking onsite, and any offsite parking for employees and tour buses;

The materials provided on January 2, 2020, indicate some adjustments were made to the garage parking and the surface parking to the rear of the building to accommodate moving the dumpster away from Clark Street. In the garage, four spaces were gained by adjusting the size of the parking spaces; however, no dimensions are provided making compliance with the Zoning Bylaw difficult to determine. Five spaces were reduced in surface parking, presumably to provide an adequate size drive aisle for two-way traffic and access to the dumpster, but no dimensions are provided to document compliance with the Zoning Bylaw. Overall, moving the dumpster away from Clark Street is an improvement.

No additional information has been provided regarding employee parking and tour bus parking. There was reference to the Mill Brook Animal Clinic offering to provide additional off-site parking, but no formal documentation of a shared parking agreement has been provided.

3. Loading and unloading and deliveries, where and how will it happen and determining if vehicles have the ability to turn onto Clark Street and into the project site;

As noted above in what we have received relative to item 1 (Traffic Study), the surface parking at the rear of the site was adjusted to presumably provide more adequate space for loading and unloading of deliveries.

The addition of the circular driveway off of Mass Ave will facilitate passenger loading and unloading outside of the public right-of-way limiting conflicts between pedestrians, bicycles, and other vehicles on Mass Ave. This is a better solution than the cut out of the sidewalk originally proposed. Outside of business hours, the circular driveway could be used for deliveries as well.

4. Accounting of the FAR for the building and the bonus;

DPCD has not received an updated accounting of the FAR for the building and how the bonus provisions of Section 5.3.6 apply to the proposal.

5. Open space calculations;

DPCD has not received updated open space calculations.

6. Marketing study of similar hotels you've identified, including who operates these hotels, their customers, rack rates, amenities, etc.;

DPCD has not received a marketing study for similar hotels in the greater Boston area.

7. Take another look at your shadow study, consider the existing shadows and provide a comparison and determine any impact to solar arrays in the neighborhood;

The plan set includes an updated shadow study based on the new building. The plan set also includes a shadow study documenting the existing conditions of the building and shows trees at the rear of the site. The updated materials do not identify if any of the adjacent buildings have solar arrays installed.

8. Reconsider the LEED Checklist and make some assumptions to bring the credits up;

DPCD has not received an updated LEED Checklist.

9. ADA accommodations in parking lot and along frontage; and

One accessible parking space has been designated in the rear surface parking lot. The reference to ADA accommodations along the frontage refers to the original version of the proposal which included a cut out in the sidewalk to provide a wider shoulder for loading and unloading.

10. Better understanding of roof top mechanicals and kitchen venting.

The rendering shows more roof top mechanical equipment, but no roof plan was submitted or specifications for the roof top mechanical equipment or kitchen venting.

In an email forwarded from Erin Zwirko to you dated July 29, 2019, an ARB member provided comments on the proposal including:

1. Prepare a full transportation plan to understand the impact on the intersection with Appleton/Mass Ave and the adjacent secondary streets. Consider the public recommendation of restricting right turns onto Clark;

DPCD has not yet received a transportation plan.

2. What are the plans for sidewalk enhancement on Clark around the hotel?

The plan set illustrates how the at-grade open space on the lot will be improved and activated; however, there is not information regarding sidewalk enhancements on Clark Street.

3. Currently no bike parking is shown at the front of the hotel for restaurant guests. What dayparts is the restaurant open for? Only dinner? Or breakfast and lunch? Think about public need for bike parking for the dining space based on daypart.

Parking racks are proposed on Mass Ave rather than off of Clark Street in the current plan set. Relocating the bicycle parking to the main frontage is an improvement.

4. What is the plan for deliveries and loading/unloading of buses? Restricted hours?

DPCD has not received detailed information about deliveries and loading or unloading of buses. The circular driveway and adjustments to the rear surface parking lot might accommodate these functions better, but there is not documentation or dimensions to determine compliance with the Zoning Bylaw.

5. Please detail the hotel valet parking plan proposed to include offsite parking to mitigate the differential between number of hotel rooms, staff, restaurant patrons, and parking spaces.

DPCD has not received a detailed hotel valet parking plan.

6. Please take another look at the materials proposed for the facade. The stucco and metal panel proposed are not materials that are found in the neighborhood of businesses in the Heights or Arlington Center and are not contextually appropriate nor are they appropriate for the level of Boutique Hotel that has been expressed as the operational/marketing intent. I would suggest that you take another look at the precedents that were cited in the application and come back with a more contextually appropriate facade design. Think about masonry, clapboard, and other more appropriate materials.

The materials proposed for the façade have been updated to reflect comments made by two members of the ARB who provided detailed feedback. The materials proposed now include brick, masonry, and clapboard panels. However, detailed information regarding the materials is not provided.

7. The quantity and placement of louvers on the main facade of the building are concerning and should be revisited.

The louvers proposed on the façade have been eliminated.

8. Think about the hierarchy between the Restaurant and Hotel entrances. Currently they are both rendered identically, when they have the opportunity to more individually present themselves.

The plan set has been revised to make the hotel entrance more prominent than the restaurant entrance.

9. The sliding doors on the front facade of the building on the 4th floor are not appropriate for the context of the neighborhood. If doors are proposed, consider swing doors. Similarly, the horizontal windows on the Clark St elevation are not contextually appropriate.

Sliding doors are still proposed for the fourth floor hotel units. The Clark Street elevation has been revised.

10. Restaurant planning - You are showing more seating than is achievable and you should accurately identify your potential seat count for the parking study. A good rule of thumb for a restaurant this size is dedicating 1/3 of the space to kitchen/BOH. As an example, currently there is no walk in shown cooler for the restaurant or enough dry storage. This will help mitigate some of the public concern about the number of seats.

The plan set has been revised to show no seating or space usage in the restaurant space. Without knowing the number of seats proposed for the restaurant, DPCD cannot confirm the parking required per the Zoning Bylaw for the proposal.

11. What are you planning for the deck on the rear of the building? is this seating? For the restaurant or the hotel lounge? Think about noise impact on the neighbors. Think also about whether they should look down onto the parking area. Should screening be incorporated? Wood? Vegetated?

The rear deck has been eliminated from the proposal.

12. It appears that the only access to the gym is to leave the interior of the building, walk across the parking area and into the gym under the restaurant. This does not seem like an ideal solution for your guests.

The gym has been eliminated from the proposal.

13. Reconsider the lit secondary signage on Clark St, especially if the parking is expected to be Valet and solely for the hotel staff and guests. If additional signage is proposed, perhaps a vertical banner or blade sign on the front facade to speak to approaching drivers on MA Ave would be more appropriate.

A wall sign remains on the Clark Street elevation for the restaurant.

14. Come back with more details on the proposed lighting under the overhang on Mass Ave (above outdoor seating) and in the parking garage under the building as this will spill over into the neighborhood.

DPCD has not received information on the proposed lighting or how it may or may not impact abutters.

Please provide us with a response to the above-noted items that we have not yet received by January 20th.

Should you have any questions regarding this feedback, please contact my office at 781-316-3092 or by email.

Thank you.



Town of Arlington, Massachusetts
Department of Planning & Community Development
730 Massachusetts Avenue, Arlington, Massachusetts 02476

Public Hearing Memorandum

The purpose of this memorandum is to provide the Arlington Redevelopment Board and public with technical information and a planning analysis to assist with the regulatory decision-making process.

To: Arlington Redevelopment Board

From: Jennifer Raitt, Secretary Ex Officio

Subject: Environmental Design Review, 1207-1211 Massachusetts Avenue, Arlington, MA
Docket #3602

Date: July 16, 2019

I. Docket Summary

This is an application by James F. Doherty for 1211 Mass Ave Realty Trust to construct a mixed-use structure at 1207-1211 Massachusetts Avenue within the B2 Neighborhood Business District and the B4 Vehicular Oriented Business District. The Special Permit is to allow the Board to review and approve the proposed project, under Section 3.4, Environmental Design Review.

Following the Town's Request for Proposals (RFP) process in 2016, the applicant has entered into a Purchase & Sale (P&S) Agreement to purchase the property at 1207 Massachusetts Avenue in order to construct the mixed-use building, which is desirable to the Town. 1207 Massachusetts Avenue is the location of the now closed Disabled American Veterans (DAV) club, which ceased operations and has been vacant since mid-2014. The applicant currently owns the immediately adjacent property at 1211 Massachusetts Avenue, and upon successful permitting, will combine the two properties for a unified mixed-use development.

The RFP sought proposals for the purchase and future use of the parcel as a mixed-use development consistent with 2016 amendments to the Arlington Zoning Bylaw, that defined mixed-use as "[a] Combination of two or more distinct land uses, such as commercial, lodging, research, cultural, artistic/creative production, artisanal fabrication,

residential in a single multi-story structure to maximize space usage and promote a vibrant, pedestrian-oriented live-work environment.” The applicant proposes a 50-room hotel and restaurant consistent with this definition of mixed-use.

The application also requests a parking reduction under Section 6.1.5 and additional gross floor area under Section 5.3.6.

Materials submitted for consideration of this application:

- Application for EDR Special Permit,
- Narrative,
- Site Plan, Floor Plans, Elevations, and Renderings dated June 20, 2019;
- Planting Schedule;
- Parking and Bicycle Schedule;
- Shadow Study dated June 20, 2019; and,
- Traffic Demand Management Plan.

II. Application of Special Permit Criteria (Arlington Zoning Bylaw, Section 3.3)

1. Section 3.3.3.A.

The use requested is listed as a Special Permit in the use regulations for the applicable district or is so designated elsewhere in this Bylaw.

The applicant proposes a mixed-use structure consisting of a 50-room hotel and restaurant. Mixed-use, which as defined by the Zoning Bylaw includes lodging and commercial uses, requires a Special Permit in both the B2 Neighborhood Business District and the B4 Vehicular Oriented Business District. Mixed-use is additionally subject to Environmental Design Review under Section 3.4.G and due to the proposal’s location on Massachusetts Avenue. Mixed-use is described as being allowed in Section 5.5.1 for both the B2 and B4 Districts, in particular in the B4 District when automotive-oriented uses close and are redeveloped. The Board can find that these conditions exist for the proposed project site.

2. Section 3.3.3.B.

The requested use is essential or desirable to the public convenience or welfare.

The redevelopment of the DAV site and the adjacent outdated automotive use is desirable for the public convenience and welfare. The mixed-use structure, which combines a small boutique hotel and restaurant, is well-positioned to take advantage of tourism opportunities along the Battle Road Scenic Byway, the approximate path the British used at the beginning of the American Revolution, in Arlington and neighboring communities. A hotel and restaurant in the immediate area could be desirable to tour groups that want more personalized accommodations. There is an economic benefit that would be gained through the hotel/motel tax (6%) and meals tax (0.75%). Based on current tax revenue generated by the one hotel in Town, this

50-room hotel may generate up to approximately \$150,000 of additional tax revenue to the town on an annual basis.¹ The proposed hotel's proximity to Lexington, which welcomes over 100,000 tourists per year, makes it well-positioned to absorb some of the local and regional heritage and business travel, which would provide an economic benefit to the Town of Arlington and local businesses. Neighborhood residents have voiced the critical importance for more restaurants and mixed-use based on feedback gathered from residents as well as a market demand analysis that were part of the development of the Arlington Heights Neighborhood Action Plan.

3. Section 3.3.3.C.

The requested use will not create undue traffic congestion or unduly impair pedestrian safety.

The application materials do not provide detailed information regarding the traffic impact of the new use. The ARB must request additional information from the applicant on the following topics before determining that this criterion is satisfied.

The project's only means of ingress and egress is on Clark Street as the existing curb cuts on Massachusetts Avenue will be closed. Due to the new uses, a trip generation analysis is needed to understand the traffic flow and circulation of using Clark Street as the main point of access to the property. For vehicles exiting the property, turning right directs those vehicles into a residential neighborhood and a circuitous route back to Massachusetts Avenue or to Forest Street. The best course of action may be to require vehicles exiting the property to turn left onto Clark Street and then continue either north or south on Massachusetts Avenue, and the ARB will want to consider this as a condition of a decision. By adding more turning traffic to the intersection of Clark Street and Massachusetts Avenue there may be the need to address pedestrian safety at this intersection. On the opposite side of the street is an inbound MBTA Route 77 and 79 bus stop with departures every few minutes, so a cross walk may be necessary at the intersection as the closest cross walk is at Appleton Street. However, without a trip generation analysis, the ARB does not have the full scope of understanding regarding additional traffic as a result of the proposed project.

The nearby intersection of Appleton Street and Massachusetts Avenue is uncontrolled except for when a pedestrian triggers a red light in order to cross the street. A large majority of the pedestrians at this intersection are students walking to or from the Ottoson Middle School. More information is needed from the applicant on how the introduction of a hotel and restaurant could affect the operation of this intersection, especially during the beginning and end of the school day during the school year.

¹ According to the Town of Lexington's most recent Economic Development Report to Town Meeting, the Town of Lexington generates an average of \$1.27 million dollars of revenue in hotel/motel taxes.

Additionally, the Transportation Demand Management (TDM) Plan submitted in support of the parking reduction request needs firm commitments regarding the methods in which vehicular use will be reduced at the property. The applicant should also consider providing staff subsidized transit passes and guaranteed rides home. Commitments such as these must be required in any future lease of the building. Finally, the plans show an area to pull off of Massachusetts Avenue which could facilitate valet parking, and could be supported, but this would require approval from the Select Board.

It should be noted that the proposal will improve pedestrian safety along the project site's Massachusetts Avenue frontage. Two large curb cuts will be closed as access to the property will be from Clark Street, where the curb cut will be narrowed.

4. Section 3.3.3.D.

The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety, or the general welfare.

The mixed-use structure introduces different uses than presently on the project site. There may be different demand on the municipal systems as a result, but will not create hazards affecting health, safety, or the general welfare of the immediate area or in any other area of the Town. While the application materials note that a stormwater system will be installed to control roof and surface stormwater runoff, the ARB will need more information regarding water and sewer usage. The applicant should submit evidence that the public water, drainage, and sewer system are capable of handling the needs of the 50-room hotel and restaurant.

5. Section 3.3.3.E.

Any special regulations for the use as may be provided in the Bylaw are fulfilled.

No special regulations are applicable to the proposal. The Board can find that this condition is met.

6. Section 3.3.3.F.

The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health or welfare.

The 2016 Annual Town Meeting adopted mixed-use zoning for all business districts with an affirmative vote of 187-35. This stretch of Massachusetts Avenue does not have a distinct aesthetic and there are no predominant architectural styles that characterize this area. The proposed mixed-use structure will not impair the integrity of the district and will provide connections between the Arlington Heights business district and other segments of the Mass Ave commercial corridor. The hotel use in particular will provide greater access for tourists to Arlington's historic

resources that make it part of the Battle Road Scenic Byway, including the nearby Foot of the Rocks monument and the Old Schwamb Mill.

The immediate area around the project site is a mix of residential and commercial spaces. Immediately behind the project site is a neighborhood of mostly single- and two-family homes in an R2 Two-Family District. Higher density residential uses are present across the street on Massachusetts Avenue, but the R2 District carries across Massachusetts Avenue as well where significant elevation is gained. The Heights business district is a short distance away (about 1,500 feet to the west) and an industrial-zoned area is less than 1,000 feet to the east.

7. Section 3.3.3.G.

The requested use will not, by its addition to a neighborhood, cause an excess of the use that could be detrimental to the character of said neighborhood.

The use will not be in excess or detrimental to the character of the neighborhood. The Board can find that this condition is met.

III. Environmental Design Review Standards (Arlington Zoning Bylaw, Section 3.4)

1. EDR-1 Preservation of Landscape

The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.

The existing site condition is primarily impervious, but the proposal will increase the amount of open space on the site. A 5-foot landscaped buffer is provided along the rear property line that will be planted with tree lilacs, arborvitae, and smaller shrubs such as hydrangea and holly. Planters along Massachusetts Avenue are also proposed. While a planting schedule is provided, a landscape plan must be submitted. The application materials indicate that there will be 1,581 square feet of landscaped open space and 3,384 square feet of usable open space. The landscape plan should also document where the two types of open space will be satisfied on the property.

2. EDR-2 Relation of the Building to the Environment

Proposed development shall be related harmoniously to the terrain and to the use, scale, and architecture of the existing buildings in the vicinity that have functional or visible relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing so as to reduce the effect of shadows on the abutting property in an R0, R1 or R2 district or on public open space.

At 4 stories and 44 feet tall, the proposed building is taller than most of the buildings in the immediate vicinity. On the opposite side of Massachusetts Avenue, the terrain

quickly gains elevation, so nearby buildings appear much taller due to the elevation change. The proposal also steps in the first floor 8 inches from the second and third floor, and provides the upper-story step back at the top of the third floor at 34 feet. Section 5.3.17 requires that building more than three stories in height, such as the proposal, an additional 7.5-foot step-back (upper story building setback) shall be provided beginning at the third story level or 30 feet above grade, whichever is less. As part of the EDR jurisdiction, these requirements should be further addressed until the Board is satisfied that the building is well-situated on the parcels.

The building does not trigger the height buffer area of Section 5.3.19 because it is proposed at the lower maximum stories and height as identified in the Table of Dimensional and Density Requirements for the Business Districts. However, the application materials also provide a shadow study during each season at the respective Solstice and Equinox.

3. EDR-3 Open Space

All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing by the site or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility and facilitate maintenance.

As noted above, the proposed project will provide open space on the existing primarily impervious site. The application materials indicate that there will be 1,581 square feet of landscaped open space and 3,384 square feet of usable open space. Landscaped buffers will be located at the rear of the property providing some relief to the residential structures located behind the project site. A large patio along Massachusetts Avenue is proposed, which can create gathering space and an inviting atmosphere along the sidewalk. A landscape plan must be submitted and must document where the two types of open space will be satisfied on the property in order to assess compliance with this criterion.

4. EDR-4 Circulation

With respect to vehicular and pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 6.1.12 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.

The application materials indicate that 28 parking spaces will be provided on the site, either under the building or at the rear of the property. The applicant has requested a parking reduction under Section 6.1.5:

Parking Requirement			
		<u>Zoning Requirement</u>	<u>Total Parking Required</u>
Hotel	50 rooms	1 space per room	50
Restaurant	2,568 sf	1/300 sf*	0
Total Parking			50
Section 6.1.5 Reduction			Up to 25% of the requirement, or 13 spaces
Total Parking Provided			28
* First 3,000 sf of non-residential space in mixed-use projects is exempt.			

In general, as discussed under the response to criterion 3.3.3.C, there is no information about circulation on and around the project site. The only access to the property is from Clark Street and there is no information on how trips to and from the project site will change. A trip generation analysis is needed to understand the traffic flow and circulation of using Clark Street as the main point of access to the property. A trip generation analysis may indicate that right turns from the property onto Clark Street should be restricted and there may be the need for pedestrian improvements at the intersection of Clark Street and Massachusetts Avenue due increased traffic.

On the project site, there is no information on where loading and unloading will occur. Based on the application materials, there is no information on the size of truck that can access the project site and whether vendors need to be limited to a certain size truck in order to navigate Clark Street and the parking lot. Additionally, the floor plan does not seem to provide direct loading access to the restaurant's kitchen or the hotel from the rear parking lot. If loading and unloading will occur on Massachusetts Avenue, it is not clear whether there is shoulder space for a large truck to park during these activities. To combat idling and disruption to the surrounding neighborhood, deliveries should be limited to certain hours of the day.

Circulation within the parking lot is not clearly discussed. Some of the parking spaces provided are tandem spaces and it is not clear how the spaces will be assigned or allocated between the hotel and restaurant. If the parking spaces will be used primarily by the hotel, the ARB needs an understanding of the on-street parking utilization of the area. Additionally, there is no information in the applicant materials regarding the safety and security of the proposed parking area other than 12-foot

light poles. It will be important for the ARB to understand how the spaces will be utilized on the property.

Additionally, the Transportation Demand Management (TDM) Plan submitted in support of the parking reduction request needs firm commitments regarding the methods in which vehicular use will be reduced at the property. The Applicant could also consider providing staff subsidized transit passes and guaranteed rides home. Commitments such as these must be required in any future lease of the building. Finally, the plans show an area to pull off of Massachusetts Avenue which could facilitate valet parking, and could be supported, but this would require approval from the Select Board.

It should be noted that the proposal will improve pedestrian safety along the project site's Massachusetts Avenue frontage. Two large curb cuts will be closed as access to the property will be from Clark Street, where the curb cut will be narrowed.

The application materials indicate that proposal exceeds the requirements of the newly adopted bicycle parking bylaw. For the mixed-use building, 5 short-term bicycle parking spaces are required and 2 long-term bicycle parking spaces are required. The proposal exceeds this requirement by providing 7 short-term spaces and 7 long-term spaces. However, the application materials do not provide any specifications of the proposed racks, and the location of the short-term spaces is inconsistent between the plan set and renderings and the written information. The ARB should request additional information.

5. EDR-5 Surface Water Drainage

Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. Available Best Management Practices for the site should be employed, and include site planning to minimize impervious surface and reduce clearing and re-grading. Best Management Practices may include erosion control and stormwater treatment by means of swales, filters, plantings, roof gardens, native vegetation, and leaching catch basins. Stormwater should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected in intervals so that it will not obstruct the flow of vehicular or pedestrian traffic and will not create puddles in the paved areas.

In accordance with Section 3.3.4., the Board may require from any applicant, after consultation with the Director of Public Works, security satisfactory to the Board to insure the maintenance of all stormwater facilities such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the applicant fails to do.

The Board may adjust in its sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for any future maintenance needs.

The application materials only indicate that a subsurface infiltration system will be provided under the parking lot to control surface and roof runoff. There are no further details provided in the application materials. The applicant must submit an engineered site plan showing surface water drainage systems and a stormwater management plan that includes an analysis that will inform the size of an underground infiltration system and includes engineering plans for the system. It is also strongly recommended that the applicant include low impact development techniques such as creating a rain garden or other similar feature in the landscape area in the northeast corner of the property.

6. EDR-6 Utilities Service

Electric, telephone, cable TV, and other such lines of equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.

The application materials indicate that the new utilities will be underground, but the ARB will want additional information from the applicant on whether any of the existing utilities that serve the site will be reused. It should be noted that there are three utility poles (one of which is a double pole) along the Massachusetts Avenue frontage. Although requests to move or consolidate utility poles are often not accepted by the utility companies, the applicant should attempt to coordinate with the utility company to at least remove the double pole and consolidate the operations to the other two poles as the poles and lines interfere with the structure's visibility. The ARB will want to understand that the services carried on these poles will not be overloaded.

7. EDR-7 Advertising Features

The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties.

The signage proposed in the application materials are place holders for the mixed-use structure. However, the proposal appears to be consistent with the newly adopted sign bylaw in terms of location and size. The application materials indicate that the signage will be back lit, but there is no information in the application materials about lighting of the building in general. A condition of a decision by the ARB should include a requirement that the final signage be reviewed for compliance.

8. EDR-8 Special Features

Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.

There will be equipment on the roof to service the mixed-use structure, and it appears that some of the equipment will be screened. Each hotel room has its own system and the louvers can be seen on the renderings. Although Arlington does not specify a certain noise level at the property line, many nearby communities identify a day-time noise level of no more than 65 dbA or no more than 10 dbA over the background noise level. Overnight, many nearby communities identify a noise level of 50 dbA. Using this as guidance, the applicant should clarify the noise impact of the HVAC and other noise-emitting equipment.

To reduce noise from deliveries or from solid waste removal, the ARB will want information on anti-idling measures and time of day restrictions to ensure that these services do not impact the surrounding residential properties.

The applicant should clarify how the dumpster will be screened and shared.

9. EDR-9 Safety

With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.

As noted in the application materials, the proposed interior layout plans have been designed to facilitate building evacuation and accessibility by fire, police, and other emergency personnel and equipment. The application materials indicate that the rear parking lot will be illuminated through the use of 12-foot pole mounted LED lights; however, there is no indication on the plans where these light poles would be located and the specification of such. Further, there is no information on how the open garage will be secured.

10. EDR-10 Heritage

With respect to Arlington's heritage, removal or disruption of historic, traditional or significant uses, structures or architectural elements shall be minimized insofar as practical whether these exist on the site or on adjacent properties.

The existing structures are not listed on the *Inventory of Historically or Architecturally Significant Properties in the Town of Arlington* nor are they under the jurisdiction of

the Arlington Historical Commission. As such, the site contains no historic, traditional or significant uses, structures or architectural elements. The Board can find that this condition is met.

Two properties on the opposite side of Massachusetts Avenue (1210 Massachusetts Avenue and 1218-1222 Massachusetts Avenue) are under the jurisdiction of the Historical Commission. The redevelopment of the subject property will not disrupt historic, traditional, or significant uses, structures, or architectural elements that exist on the adjacent properties.

11. EDR-11 Microclimate

With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard surface, ground coverage or the installation of machinery which emits heat, vapor or fumes shall endeavor to minimize insofar as practicable, any adverse impacts on light, air and water resources or on noise and temperature levels of the immediate environment.

There are no proposed changes that will impact the microclimate. A shadow study was prepared and is provided in the application materials to illustrate how the building may create additional shadows in the immediate area. Although the project does not trigger the height buffer area, the ARB will want to assess to ensure that the Board is satisfied that the building is well-situated on the parcels.

12. EDR-12 Sustainable Building and Site Design

Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project.

The Applicant indicates that the building will meet the Stretch Code. Additional information regarding the LEED Checklist is needed.

IV. Conditions

General

1. The final design, sign, exterior material, landscaping, and lighting plans shall be subject to the approval of the Arlington Redevelopment Board at the time when future operators are identified. Any substantial or material deviation during construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board

2. Any substantial or material deviation during construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board.
3. The Board maintains continuing jurisdiction over this permit and may, after a duly advertised public hearing, attach other conditions or modify these conditions as it deems appropriate in order to protect the public interest and welfare.
4. Snow removal from all parts of the site, as well as from any abutting public sidewalks, shall be the responsibility of the owner and shall be accomplished in accordance with Town Bylaws.
5. Trash shall be picked up only on Monday through Friday between the hours of 7:00 am and 6:00 pm. All exterior trash and storage areas on the property, if any, shall be properly screened and maintained in accordance with Article 30 of Town Bylaws.
6. The Applicant shall provide a statement from the Town Engineer that all proposed utility services have adequate capacity to serve the development. The applicant shall provide evidence that a final plan for drainage and surface water removal has been reviewed and approved by the Town Engineer.
7. Upon installation of landscaping materials and other site improvements, the Applicant shall remain responsible for such materials and improvement and shall replace and repair as necessary to remain in compliance with the approved site plan.
8. Upon the issuance of the building permit the Applicant shall file with the Inspectional Services Department and the Police Department the names and telephone numbers of contact personnel who may be reached 24 hours each day during the construction period.



TOWN OF ARLINGTON
DEPARTMENT OF PLANNING and
COMMUNITY DEVELOPMENT

TOWN HALL, 730 MASSACHUSETTS AVENUE
ARLINGTON, MASSACHUSETTS 02476
TELEPHONE 781-316-3090

MEMORANDUM

Date: August 7, 2019

To: Arlington Redevelopment Board

From: Erin Zwirko, Assistant Director, Planning and Community Development

cc: Jenny Raitt, Director, Planning and Community Development

RE: Docket 3602, 1207-1211 Massachusetts Avenue, Special Permit Filing Fee Waiver Request

The Arlington Redevelopment Board (ARB) may vote to waive all or some of the Special Permit filing fee in cases where it is warranted. This memorandum provides background on the Special Permit filing fee for Docket 3602, 1207-1211 Massachusetts Avenue.

The Request for Proposals (RFP) issued by the Town in 2016 for the Town-owned property located at 1207 Massachusetts Avenue (also known as the Disabled American Veterans club) stated that:

"The Town, through its Board of Selectmen and Town Manager, is seeking proposals for the purchase and future use of the parcel with highly advantageous bidders accepting a 40-year deed restriction to require mixed-use development of the property consistent with recent revisions to the Arlington Zoning Bylaws, and defined as "[a] Combination of two or more distinct land uses, such as commercial, lodging, research, cultural, artistic/creative production, artisanal fabrication, residential in a single multi-story structure to maximize space usage and promote a vibrant, pedestrian-oriented live-work environment." Such advantageous bidders shall receive waivers of building and special permit fees in additional consideration. [emphasis added]"

The successful bidder, and now the applicant, proposed a project that spanned both 1207 and 1211 Massachusetts Avenue. Town Counsel advised that the Special Permit fees and the building permit fees would be waived for 1207 Massachusetts Avenue, but not for 1211 Massachusetts Avenue. Representatives from Inspectional Services and Planning and Community Development and Town Counsel determined that 50% of the total fee otherwise required for the specific mixed-use project at 1207-1211 Massachusetts Avenue would be an acceptable fee required for the Special Permit and future building permits.

The Environmental Design Review Special Permit filing fee is calculated as \$500 plus \$0.20 per square foot of new construction. The gross square footage of the building proposed at 1207-1211 Massachusetts Avenue is approximately 24,443 square feet (all new construction). Therefore, the total fee is calculated to be \$5,388.60. The Department of Planning and Community Development accepted a filing fee of \$2,694.30 or 50% of the total fee that would otherwise be required.

We recommend that Board accept this filing fee of \$2,694.30, by voting to waive the Special Permit filing fee for 1207 Massachusetts Avenue per the RFP.



TOWN OF ARLINGTON
REDEVELOPMENT BOARD

Application for Special Permit In Accordance with Environmental Design
Review Procedures (Section 3.4 of the Zoning Bylaw)

Docket No. _____

1. Property Address 1207 & 1211 MASSACHUSETTS AVE
Name of Record Owner(s) 1211 MASS AVE Realty Trust* Phone 781-640-2942
Address of Owner 1122 MASS AV, ARLINGTON, MA 02476
Street City, State, Zip

2. Name of Applicant(s) (if different than above) N/A Phone _____
Address _____
Status Relative to Property (occupant, purchaser, etc.) _____

3. Location of Property Parcels 58-11-1 & 57-4-14
Assessor's Block Plan, Block, Lot No.

4. Deed recorded in the Registry of deeds, Book 5873, Page 485; 60543 439
-or- registered in Land Registration Office, Cert. No. _____, in Book _____, Page _____

5. Present Use of Property (include # of dwelling units, if any) residential, Automotive,
VACANT SOCIAL CLUB

6. Proposed Use of Property (include # of dwelling units, if any) MIXED-USE CONSISTING
OF A FIFTY ROOM HOTEL AND RESTAURANT ON THE FIRST
FLOOR.

7. Permit applied for in accordance with the following Zoning Bylaw section(s) S.5.3 Mixed use development
S.3.17 Upper story setbacks
6.1.5 Parking reduction in Business district
S.3.6 Exceptions to maximum FAR regulation
section(s) title(s)

8. Please attach a statement that describes your project and provide any additional information that may aid the ARB in understanding the permits you request. Include any reasons that you feel you should be granted the requested permission.

*TOWN OF ARLINGTON

SEE ATTACHED

(In the statement below, strike out the words that do not apply)

The applicant states that 1211 MASS AVE Realty Trust is the owner -or- occupant -or- purchaser under agreement of the property in Arlington located at 1211 & 1207 MASSACHUSETTS AVE.

which is the subject of this application; and that unfavorable action -or- no unfavorable action has been taken by the Zoning Board of Appeals on a similar application regarding this property within the last two years. The applicant expressly agrees to comply with any and all conditions and qualifications imposed upon this permission, either by the Zoning Bylaw or by the Redevelopment Board, should the permit be granted.

[Signature] Trustee
Signature of Applicant(s)

1122 MASSACHUSETTS AVE ARLINGTON, MA. 781-640-2942
Address Phone



Town of Arlington Redevelopment Board
Application for Special Permit in accordance with
Environmental Design Review (Section 3.4)

Required Submittals Checklist

Two full sets of materials and one electronic copy are required. A model may be requested. Review the ARB's Rules and Regulations, which can be found at arlingtonma.gov/arb, for the full list of required submittals.

- ☒ Dimensional and Parking Information Form (see attached)
- ☒ Site plan of proposal
- ☐ Model, if required
- ☒ Drawing of existing conditions - photo
- ☒ Drawing of proposed structure
- ☒ Proposed landscaping. May be incorporated into site plan
- ☒ Photographs
- ☒ Impact statement
- ☒ Application and plans for sign permits
- ☐ Stormwater management plan (for stormwater management during construction for projects with new construction ~)

FOR OFFICE USE ONLY

- | | |
|---|----------------------|
| <input type="checkbox"/> Special Permit Granted | Date: _____ |
| <input type="checkbox"/> Received evidence of filing with Registry of Deeds | Date: _____ |
| <u>62</u> Notified Building Inspector of Special Permit filing | Date: <u>6/24/19</u> |

TOWN OF ARLINGTON

Dimensional and Parking Information
for Application to
The Arlington Redevelopment Board

Docket No. _____

Property Location 1207 + 1211 MASSACHUSETTS AVE

Zoning District B4/B2

Owner: 1211 MASS AVE REALTY TRUST

Address: 1211 MASSACHUSETTS AV

Present Use/Occupancy: No. of Dwelling Units:

Uses and their gross square feet:

Mixed use / residential, automotive, social club

5,731 SF

Proposed Use/Occupancy: No. of Dwelling Units:

Uses and their gross square feet:

Mixed use / HOTEL, Restaurant

24,443 SF

	Present Conditions	Proposed Conditions	Min. or Max. Required by Zoning for Proposed Use
Lot Size	14,030	14,030	min.
Frontage	160.12	160.12*	min. 50
Floor Area Ratio	.41	1.67	max. 1.8
Lot Coverage (%), where applicable	—	—	max. N/A
Lot Area per Dwelling Unit (square feet)	—	—	min. —
Front Yard Depth (feet)	10	4.7	min. —
Side Yard Width (feet) right side	—	—	min. —
left side	—	—	min. —
Rear Yard Depth (feet)	16	38	min. 18
Height			min. —
Stories	2	4	stories 4-5
Feet	25	44	feet 50'
Open Space (% of G.F.A.)			min. —
Landscaped (square feet)	1170	1581	(s.f.)
Usable (square feet)	1670	3384	(s.f.)
Parking Spaces (No.)	24	28	min. 50
Parking Area Setbacks (feet), where applicable	0	5'	min. 5'
Loading Spaces (No.)	0	0	min. —
Type of Construction	Type 2B + 5		
Distance to Nearest Building	0	.06	min. 0

* MASSACHUSETTS AVENUE frontage only

Hand Delivered

2019 JUN 21 A 11:15

June 20, 2019

Redevelopment Board

Town of Arlington

730 Massachusetts Avenue

Arlington, Ma. 02476

RE: Special Permit Application – 1207 & 1211 Massachusetts Avenue

Dear Members:

Enclosed please find our application for Special Permit in accordance with Environmental Design Review Procedures (Section 3.4 of the Arlington Zoning Bylaw). Included in this application are the submittals outlined on the check list. We have spent many hours developing these plans with input from the Planning department staff, which we are very appreciative of. These discussions have been very helpful and we look forward to discussing this proposal with you.

The proposed development would demolish the current improvements on both parcels and construct a four story mixed use development. When complete, the property will consist of a 50 room boutique hotel and upscale restaurant. This proposal will provide much needed improvements to the area and a significant economic stimulus to the Heights. Below we address the narrative relating to the Impact Statement and Special Permit Criteria.

Impact Statement:

1. Preservation of Landscaping.

The current site has a small amount of landscaping in front of the former DAV Post. The balance of the site is covered by the buildings, pavement, and walkways on the site. We intend to provide a larger area with a substantial addition of trees, plants, and landscaping along the rear of the site, providing a nice lush buffer to the residential district to the rear. In addition we have an extensive planting and open space design for the front of the site along Massachusetts Avenue. Please see the attached site plan and planting schedule.

2. Relation of Buildings to Environment.

As mentioned above, this proposal involves a four story elevator building consisting of a hotel and restaurant. The hotel lobby and restaurant will be located on the first floor while all guest rooms will be on the upper levels. The fourth floor will also include private deck space for each unit on that level, as well as a grassed area for other hotel guests. The proposal will move the structure closer to Massachusetts Avenue and much further away for the residential neighborhood to the rear. This project is in harmony with the retail and other uses in the area.

3. Open Space.

The site is currently improved with two structures having a combined footprint of 4,614 sq. ft. The proposed structure will have a footprint of 5,516 sq. ft., an increase of 902 sq. ft. Although there is a slight increase, the usable open space, substantial pervious area reduction and rear yard setbacks are all positive results of this project.

4. Circulation.

The improvements proposed will help the circulation for vehicular, bicycle, and pedestrians. We will be eliminating two large driveway openings (totaling 55') and realigning the sidewalk and curbing. In addition we are providing indoor and outdoor areas for bicycles. All parking will be provided via a single curb cut in the rear. Bus service to multiple locations can be boarded / dropped off within feet of the property and is convenient to highway access and the bike path.

5. Surface Water Drainage.

The properties are currently covered (over 90%) by impervious surfaces. The proposal will result in a reduction in impervious surface, therefore Title 5, article 15, section 4 does not apply. However, we have met with the Assistant Town Engineer and have agreed to construct a storm water management system onsite. The system will be located under the driveway and contain all roof and surface runoff. All surface water will be contained on site, in compliance to the bylaws and with Town approval.

6. Utility Service.

As part of the redevelopment, all new utility services will be installed to the property. These systems will all be underground and conform to Town requirements.

7. Advertising Features.

As shown on the renderings, we are proposing signage for the hotel and restaurant. It will appear on the front and West side. In Addition there will be some small signs (most likely two or three) in the rear to guide vehicular, bicycle and pedestrian traffic. On the front the signage will be a contemporary font (12") and mounted to the front of the canopy to the hotel and restaurant. The signage on Clark Street will be on the building façade, the fonts (Hotel sign 12", restaurant 8") will match the canopy signage. Both the front canopy and the Clark Street signage will be back lit.

8. *Special Features.*

We have proposed substantial landscaping on site, specifically the rear boundary. This is intended to provide adequate screening and create a more harmonious environment than currently exist.

9. *Safety.*

We believe the proposed improvements to the sidewalks and the elimination of two driveway openings will create safer off site conditions for residents. In addition, the building has two stairwells servicing all floors as well as an elevator. It will meet all ADA and fire code requirements. Illumination of the rear parking area will be achieved by 12'-0" high pole mounted LED lights with cut off lenses to ensure no other properties are affected. Additional LED down lights will be mounted below the projecting balcony to illuminate the area at the building covered parking entrance.

10. *Heritage.*

This project does not involve any historical structures, nor will it disrupt any historical uses. In fact we believe that this project will increase interest in the Towns many Historic sites. Located a short distance from the property is the "FOOT OF THE HILLS" site and "OLD SCHWAMB MILL." It is our goal to leverage the Lexington tour groups, and introduce them to the Town where the first shot of the Revolution was fired!

11. *Microclimate.*

We believe the increase in permeable surface will impact light, air, and water recharge in a positive way. In addition this will also create a nice natural buffer. The new structure will be 35 to 54 feet away from the rear boundary, which is a significant increase from the current conditions which ranges from 16 to 20 feet.

The basement level has a sizable mechanical equipment room serving the main street level public spaces (the Hotel Lobby and the Restaurant). All of the upper floor hotel rooms are served by individual vertical air handlers (V-TAC) units, as depicted by the louvers on the building elevations and renderings. All of the equipment is designed and located to control any emissions. The entire building will be exhausted through the high roof with low profile exhaust fans.

12. *Sustainable Building and Site Design.*

This building will meet or exceed the Towns New Stretch Code. Below we have provided some details of the exterior finishes being proposed.

Main Level: Kawneer Curtain wall system, making the public spaces as transparent (inviting) as possible;

2ND & 3RD Floor: The cantilevered (projected) bays consist of an insulated stucco system, the recess portions consist of either actual 1"x finished wood or a "Nicha" cladding having the appearance of wood.

4TH Floor: Is clad with the insulated stucco system.

Both the high and low roofs are copped with a darker metal roof edge system.

Clark Street Façade:

Main Level: (see above for the public spaces); The stair well is clad with a metal panel system similar to Corten or equal.

2ND & 3RD Floor: Consists of either actual 1"x finished wood or a "Nicha" cladding having the appearance of wood. The stair well is clad with a metal panel system similar to Corten or equal.

4TH Floor: Is clad with the insulated stucco system. The stair well is clad with a metal panel system similar to Corten or equal.

Both the high and low roofs are copped with a darker metal roof edge system.

All windows occurring in the stair well are clad with a metal louver system.

Rear Façade:

Lower Level: The main field is clad with either actual 1"x finished wood or a "Nicha" cladding having the appearance of wood. Both ends of the building are clad with a metal panel system similar to Corten or equal.

Main Level: The main field is clad with either actual 1"x finished wood or a "Nicha" cladding having the appearance of wood. Both ends of the building are clad with a metal panel system similar to Corten or equal.

2ND & 3RD Floor: The cantilevered (projected) bays consist of an insulated stucco system, the recess portions consist of either actual 1"x finished wood or a "Nicha" cladding having the appearance of wood.

4TH Floor: Is clad with the insulated stucco system. The stair well is clad with a metal panel system similar to Corten or equal. Both ends of the building are clad with a metal panel system similar to Corten or equal.

Both the high and low roofs are copped with a darker metal roof edge system.

Right Side Façade:

A portion of the lower level is a common wall. The remainder of the exterior cover will be similar to the design of the rear façade.

Special Permit Criteria

- This mixed use project is proposed in the B4/B2 zoning districts. Mixed use is an allowable use, provided a Special Permit is issued by the Board. This proposal was submitted as a response to an RFP issued by the Town of Arlington for a mixed use development at 1207 Massachusetts Avenue. We seek approval of a special permit from the "Use Regulations For Business Districts" section 5.5.3.
- The proposal calls for a four story building containing a hotel and restaurant. The pertinent section of the bylaw, Section 5.3.17, provides for any building over three stories in height to have a "step in" of 7.5' at the third floor level or 30'.

The proposed design “steps in” the first floor 8” from the beginning of the second and third floors and again at the top of the third floor. The result of this design has the main façade comprised of only two floors (where as the bylaw allows for three), with a “step in” at 34’ rather than 30’.

We believe that this design not only meets the intent of the bylaw, but provides even greater reduction in massing. We therefore request the Board provide relief.

- The proposal increases the amount of parking on the site partially by providing 20 spaces under the building in addition to 8 outside spaces. The bylaw calls for 50 spaces and therefore we are seeking relief in accordance with section 6.1.5 of the bylaw (Please see attached parking summary grid).

The proposal provides substantial indoor and outdoor parking for bicycles on a long term and short term basis. Both areas are easily accessible and not only provide for bicycle storage, but there will be a bench and some tools available. In addition we are providing maps of the local bike network and other information for bicyclists (please see attached bicycle storage summary).

As required in the bylaw we have also included a Traffic Reduction Plan which provides many more details on our plan to comply with the bylaw. Below I have outlined a few additional commitments we are proposing;

Charge for parking off site;

Provide preferential parking for carpool vehicles;

Provide transit pass subsidies;

Provide covered bicycle parking and storage.

- The proposal is located in the zoning districts of B4 & B2, which has an FAR of 1.2. According to section 5.3.6 “Increase in Maximum Floor Area Ratio” the Board may provide relief for mixed use building area in these districts.

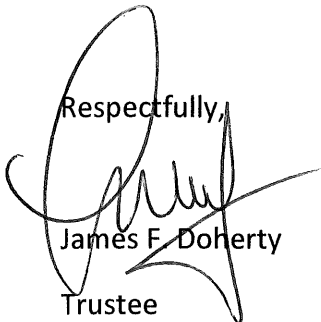
As noted, we are substantially increasing the permeable and open space on the site. This will provide for a much larger buffer to the residential district to the rear. The design of the building and landscaping plan will also provide landscaping and open space along the entire Massachusetts Avenue frontage. A portion of this area also will provide a nice open area for local community performances and art shows or presentations regarding the local historical locations nearby. We will also be dedicating an area in the lobby of the hotel to a local Veteran and community person.

Our request for an increase of 2,398 sf of building area, equates to an 11% increase. We believe we meet the criteria for relief.

1. The proposed development will transform a blighted area and provide a missing dining option in the Heights as well as a Hotel for visitors and relatives of residents. Town Meeting has changed the zoning to encourage mixed use development for the convenience and welfare of the public.
2. The property currently has three very large curb cuts on Massachusetts Avenue and Clark Street. As part of this proposal we will be removing the two on Massachusetts Avenue and shortening the Clark Street opening. We believe this and other adjustments to the sidewalk in front will improve both pedestrian safety and traffic congestion.
3. This project will not overload any public water, drainage or sewer system. We are proposing to reduce the impervious surface and install a storm water management system on site. There currently are none.
4. The current improvements consist of automotive repair and sales, as well as a former social club. The proposed development will complement the new leader bank and hopefully stimulate of retail activity in the property at 1215 Massachusetts Avenue. This proposal will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health, morals or welfare. Our goal is to work with the Redevelopment Board and staff to ensure that any special regulations for this use, as provided in the Bylaw, are fulfilled.
5. The only other hotel in Arlington is on the Cambridge line. Not only will this proposed use not cause an excess of this use, we believe this will provide economic stimulus to the retail district in the Heights, draw visitors from Lexington to the historic sites of Arlington and provide an upscale dining and gathering area for the neighborhood.

We believe this application is in the spirit of what Town Meeting envisioned when it adopted the mixed use section to the Zoning Bylaw. The RFP waived all permitting fees associated with this development, therefore no application fee was included. We look forward to meeting with the Redevelopment Board. As a result of this process, we request the Board approve our Petition for Environmental Design Review and Special Permits requested.

Respectfully,



James F. Doherty
Trustee

1211 Massachusetts Avenue
Traffic Demand Management Plan (TDM)

This property is located in one of the most ideal locations to support a parking reduction request. The site is located within 50 yards of an East / West bound MBTA surface bus stop. In addition there is a central terminal and other bus lines within walking distance.

The site is in close proximity to the Minuteman Bike Path (approximately 600 yards) which can be accessed by a street directly adjacent to the property. In addition there are marked bike lanes on Massachusetts Avenue. Both of these options provide a practical and safe route for guests. To encourage this use we will be providing an outdoor and indoor location for bicycle storage.

To help promote ridesharing we will be working with local taxi operators, livery services, and shuttles which connect areas like Alewife to employment hubs on Route 128. We also are in discussions with ZIPCAR for a spot at the site.

Finally we are discussing other nearby locations to obtain Valet parking, if necessary. It is our belief that this plan addresses the Bylaw and as mentioned previously, is a deserving location to warrant the requested relief.

<i>Parking Summary</i>			
<i>1211 Massachusetts Ave</i>			
<u>Spaces Required:</u>			
Use	Quantity	# of spaces	Total Required
Hotel	50	50	50
Resturant	2,568 sf	0	0
Total			50
Proposed			28
Reduction			22

<i>Bicycle Storage Summary</i>			
<i>1211 Massachusetts Ave</i>			
<u>Spaces Required:</u>			
<u>Use</u>	<u>Short Term</u>	<u>Long Term</u>	<u>Total Required</u>
Hotel	3	1	4
Resturant	2	1	3
Total	5	2	7
Proposed	7	7	14

<i>Planting Schedule</i>				
<i>1211 Massachusetts Ave</i>				
<u>Quantity</u>	<u>Botanical Name</u>	<u>Common Name</u>	<u>Notes</u>	<u>Location</u>
75	Buxus Green Velvet	Green Velvet Boxwood	15-18"	Front
75	Carex Blue Zinger	Blue Zinger Grass	n/a	Front
4	Syringa Reticulata Ivory Silk	Tree Liliac	2"	Rear
10	Thujastandishi x Pucata	Green Grant Arborvitae	6-8'	Rear
4	Ilex x Meserveae	Blue Princess	8-10"	Rear
4	Hydrangea Quercifolia	Oakleaf Hydrangea	4'	side

SPECIAL PERMIT - SITE PLAN REVIEW

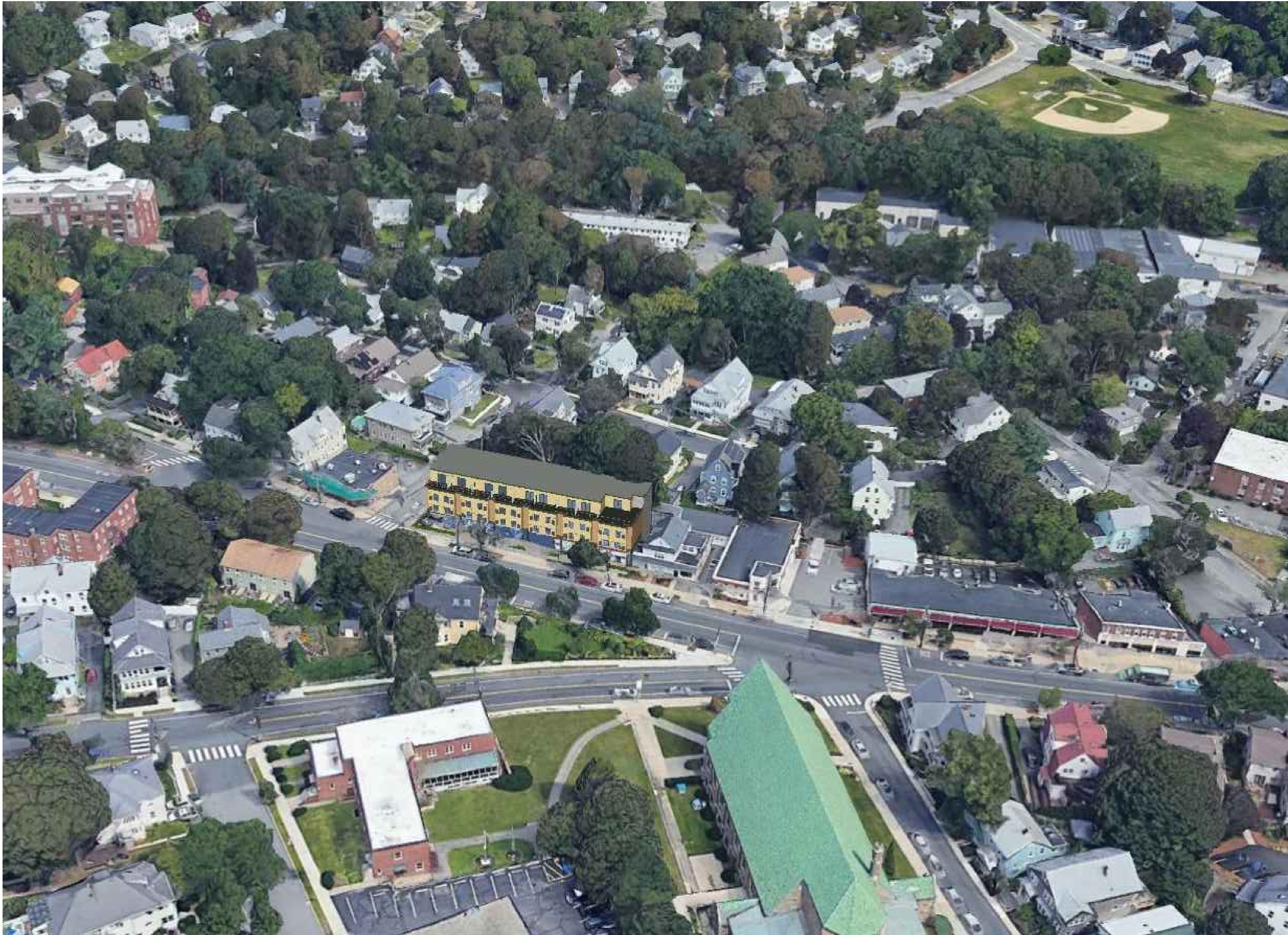
1211 Massachusetts Avenue
Arlington, MA 02476

June 20, 2019



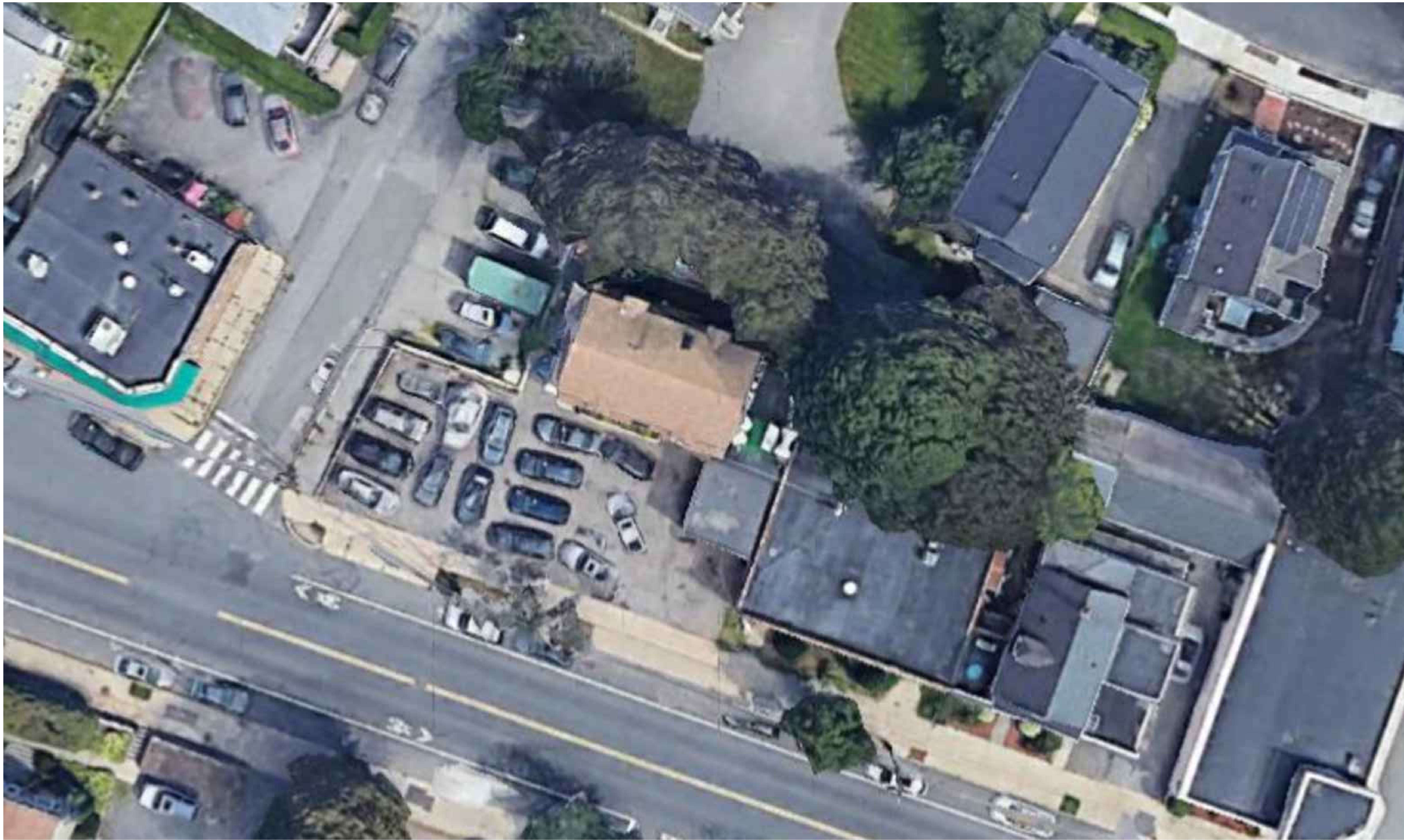
LINCOLN ARCHITECTS LLC
1 Mount Vernon Street, Suite 203
Winchester, MA 01890
781.721.7721

LOCUS PLAN

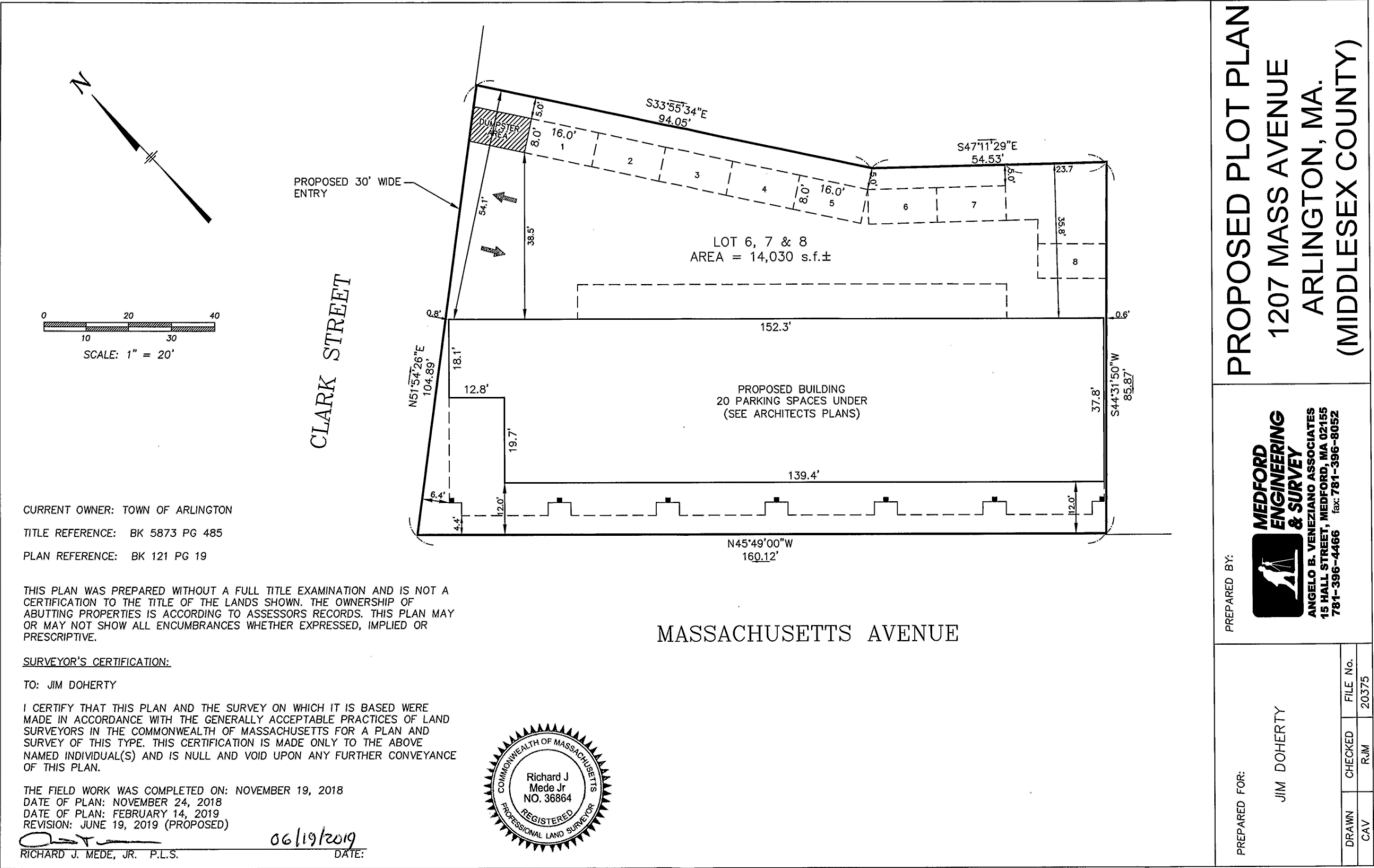


DRAWING LIST

- ARCHITECTURAL**
- COVER SHEET/LOCUS PLAN/ZONING SUMMARY
 - EXISTING CONDITION DIAGRAM
 - PROPOSED PLOT PLAN
 - SITE PLAN/LANDSCAPING PLAN
 - LOWER LEVEL FLOOR PLAN
 - MAIN LEVEL FLOOR PLAN
 - SECOND & THIRD FLOOR PLAN
 - FOURTH FLOOR PLAN
 - BUILDING ELEVATIONS
 - RENDERINGS/VIEW FROM MASSACHUSETTS AVENUE
 - RENDERINGS/VIEW FROM CLARK STREET
 - RENDERINGS/BIRDS EYE VIEW FROM MASSACHUSETTS AVENUE
 - SHADOW STUDY/SUMMER SOLSTICE
 - SHADOW STUDY/WINTER SOLSTICE
 - SHADOW STUDY/AUTUMN EQUINOX
 - SHADOW STUDY/SPRING EQUINOX

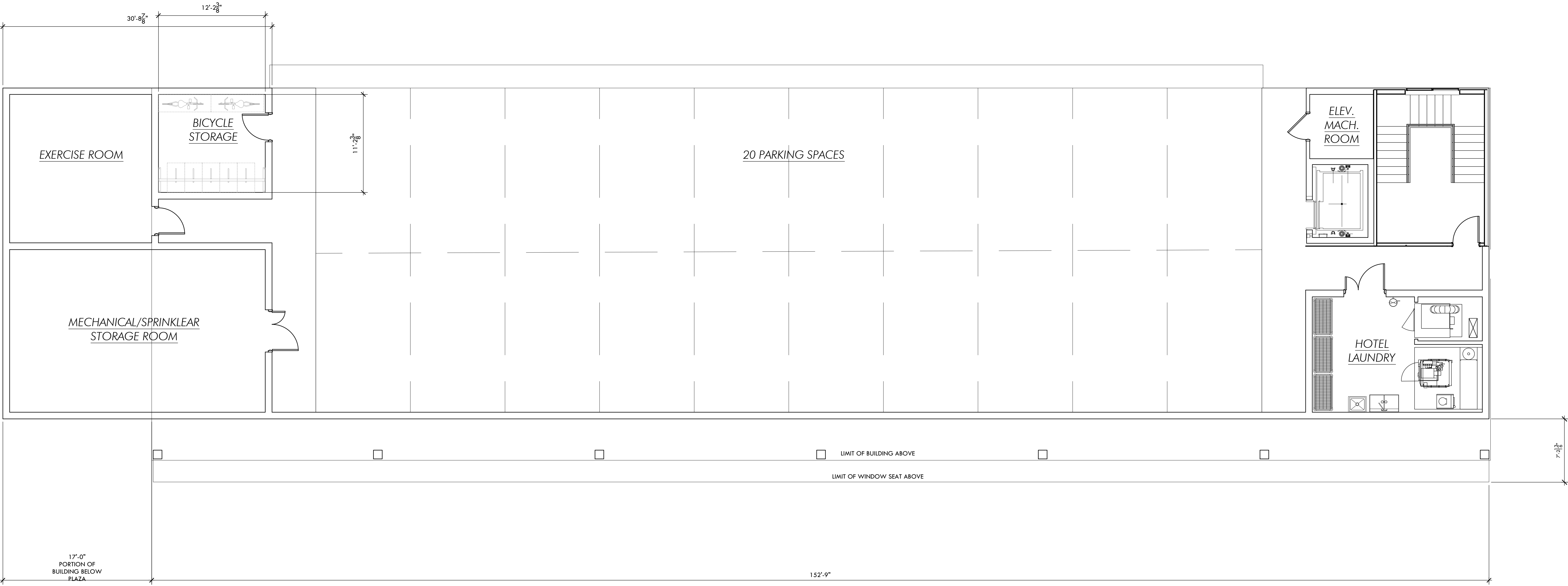


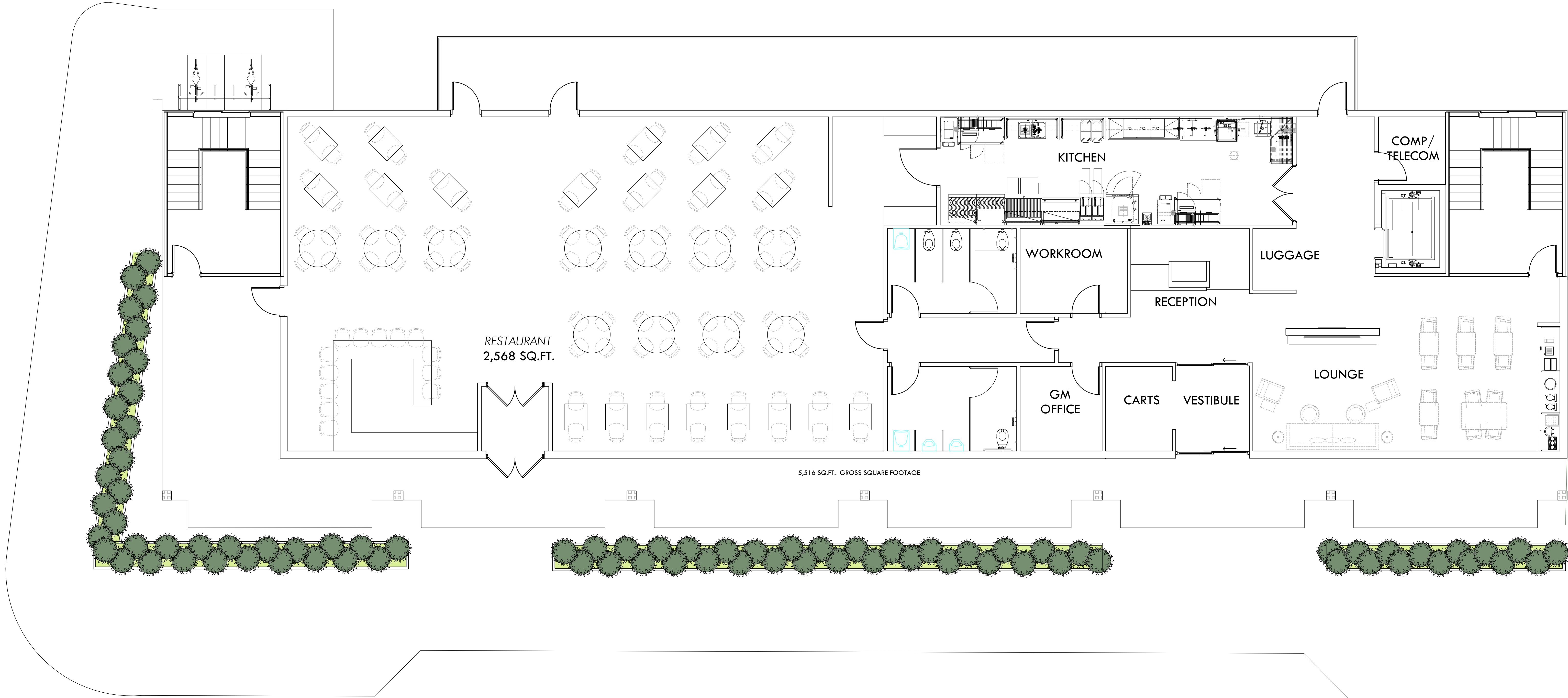
Existing Conditions Diagram

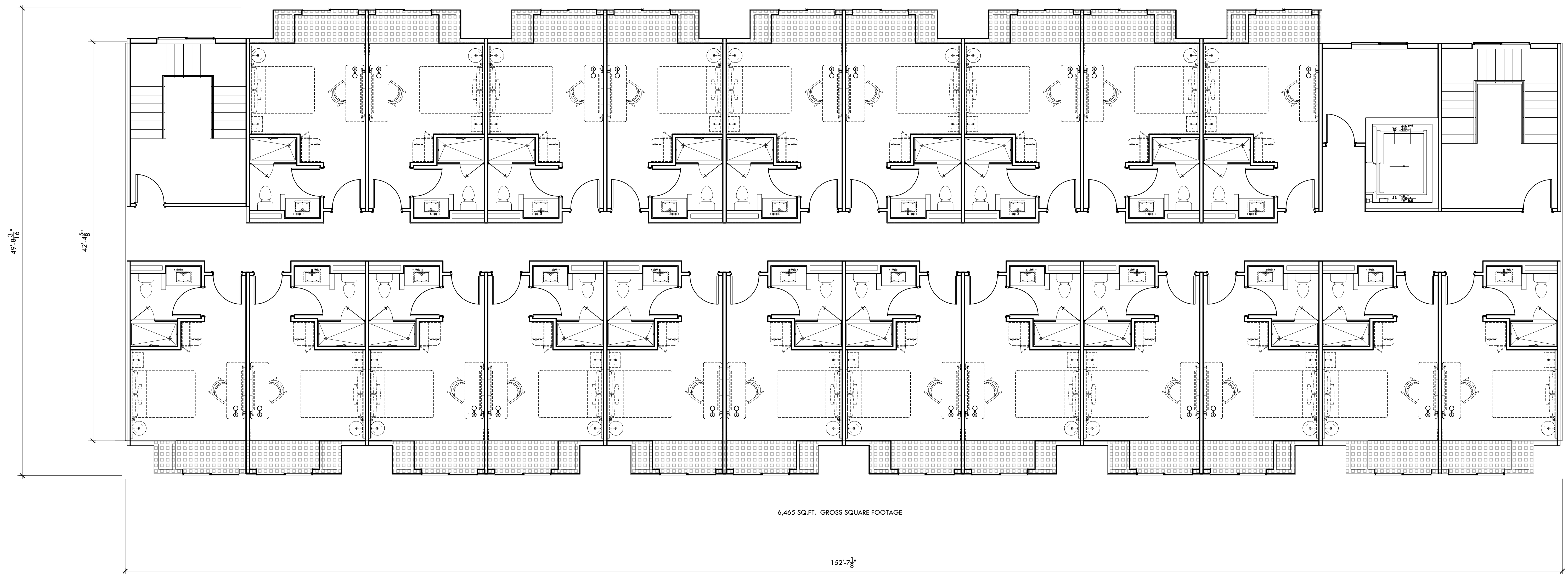




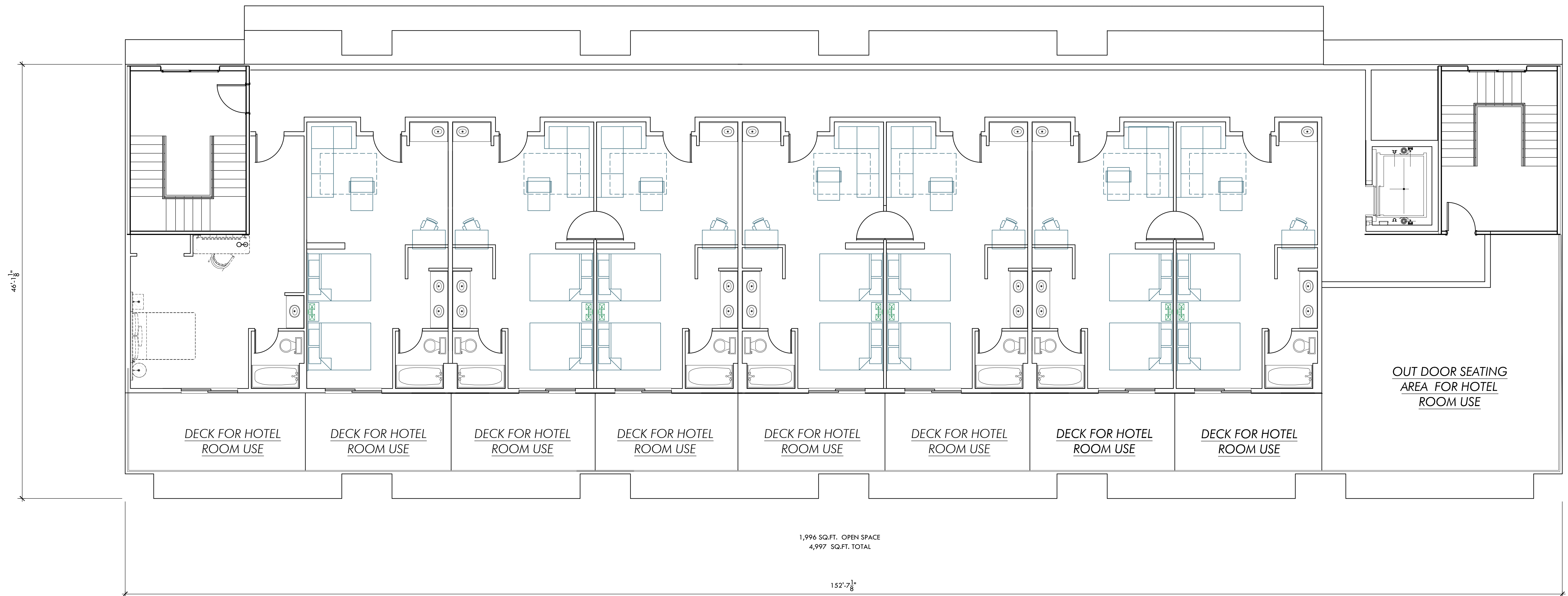
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1211 Massachusetts Ave				
75	Buxus Green Velvet	Green Velvet Boxwood	15-18"	Front
75	Carex Blue Zinger	Blue Zinger Grass	n/a	Front
4	Syringa Reticulata Ivory Silk	Tree Liliac	2"	Rear
10	Thujastandishi x Pucata	Green Grant Arborvitae	6-8'	Rear
5	Ilex x Meserveae	Blue Princess	8-10"	Rear
4	Hydrangea Quercifolia	Oakleaf Hydrangea	4'	side







Second & Third Floor Plan





Front Elevation (Massachusetts Avenue)



Side Elevation (Clark Street)



Rear Elevation

Building Elevations



View From Massachusetts Avenue



View From Clark Street

Renderings

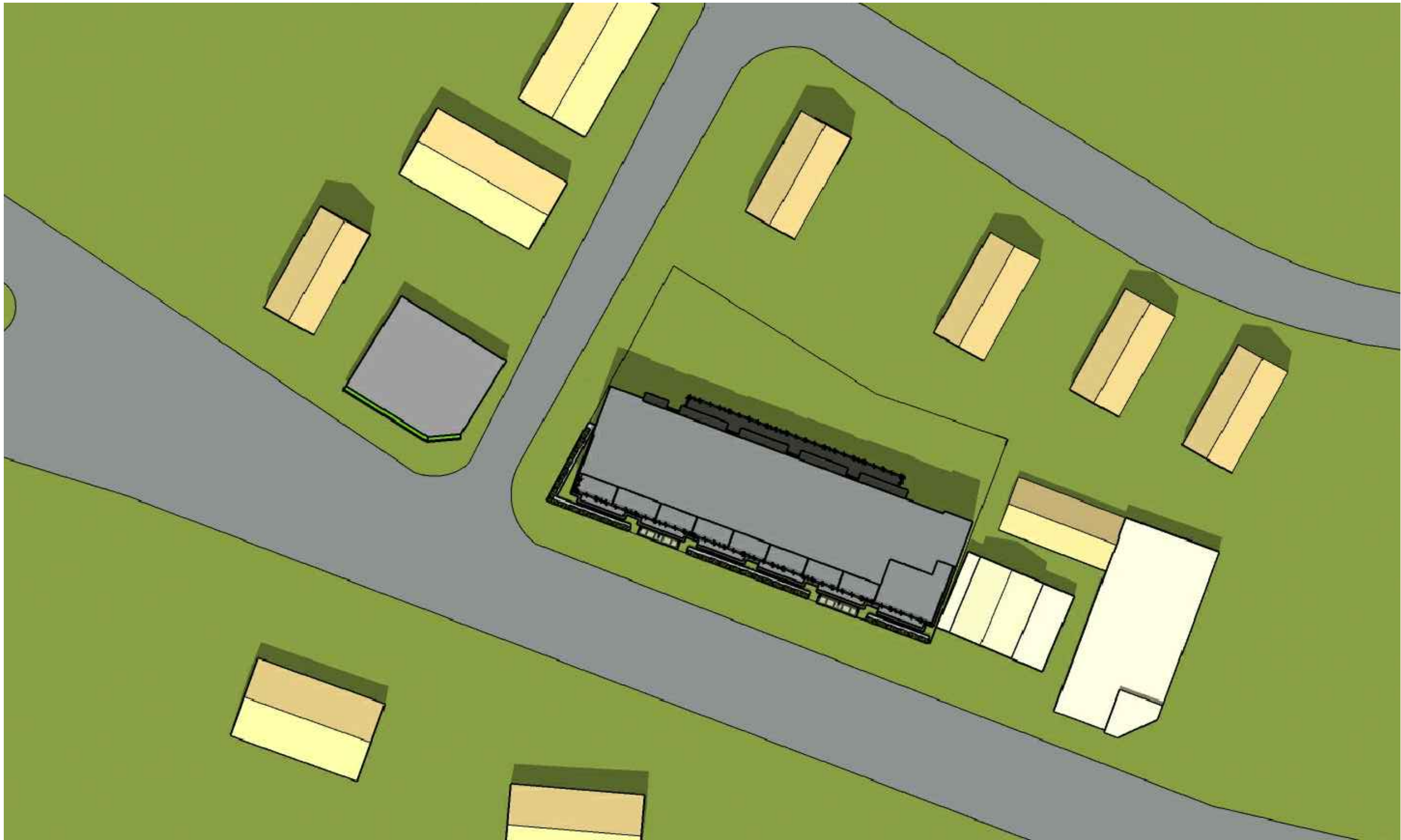


Birds Eye View From Massachusetts Avenue

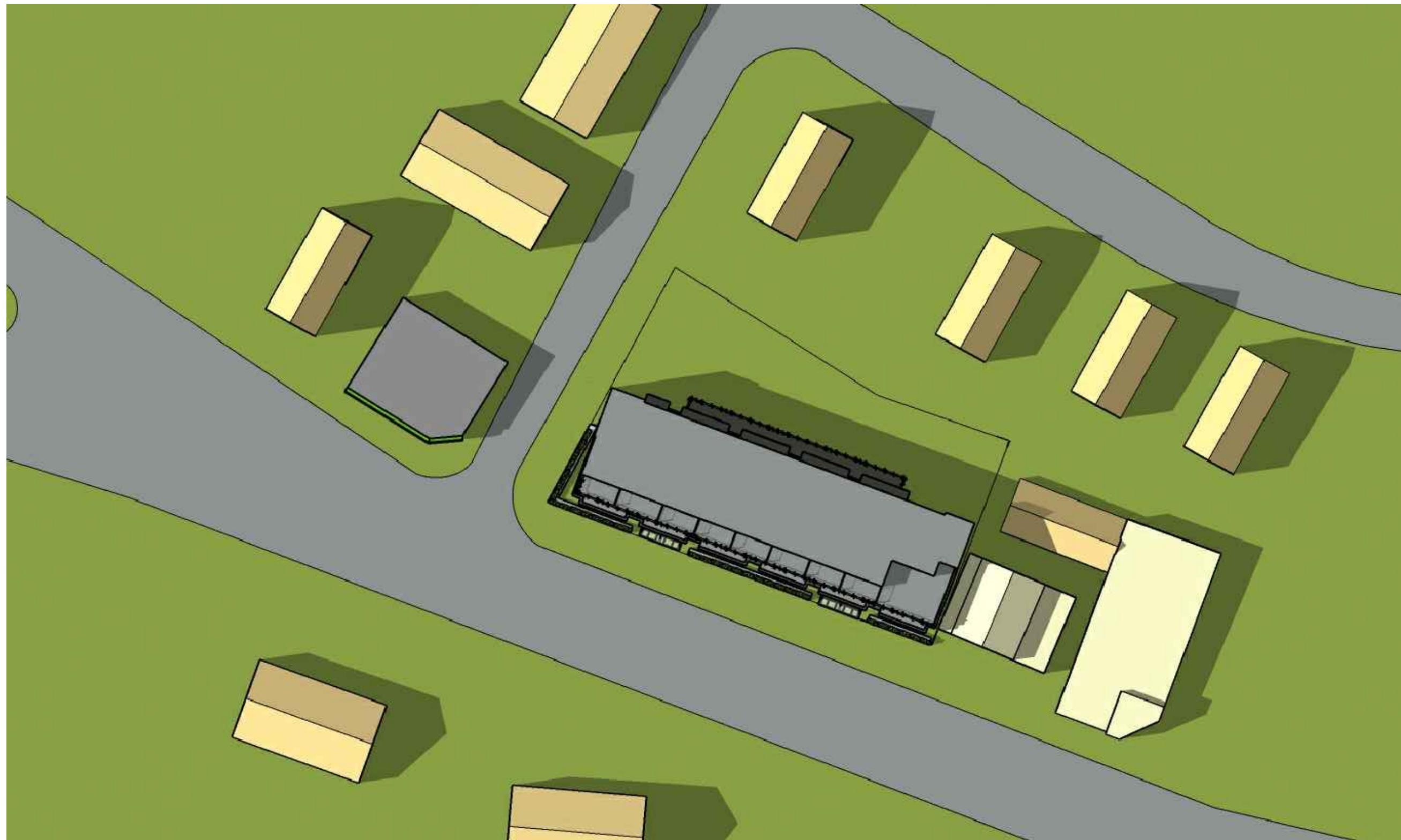
Summer Solstice



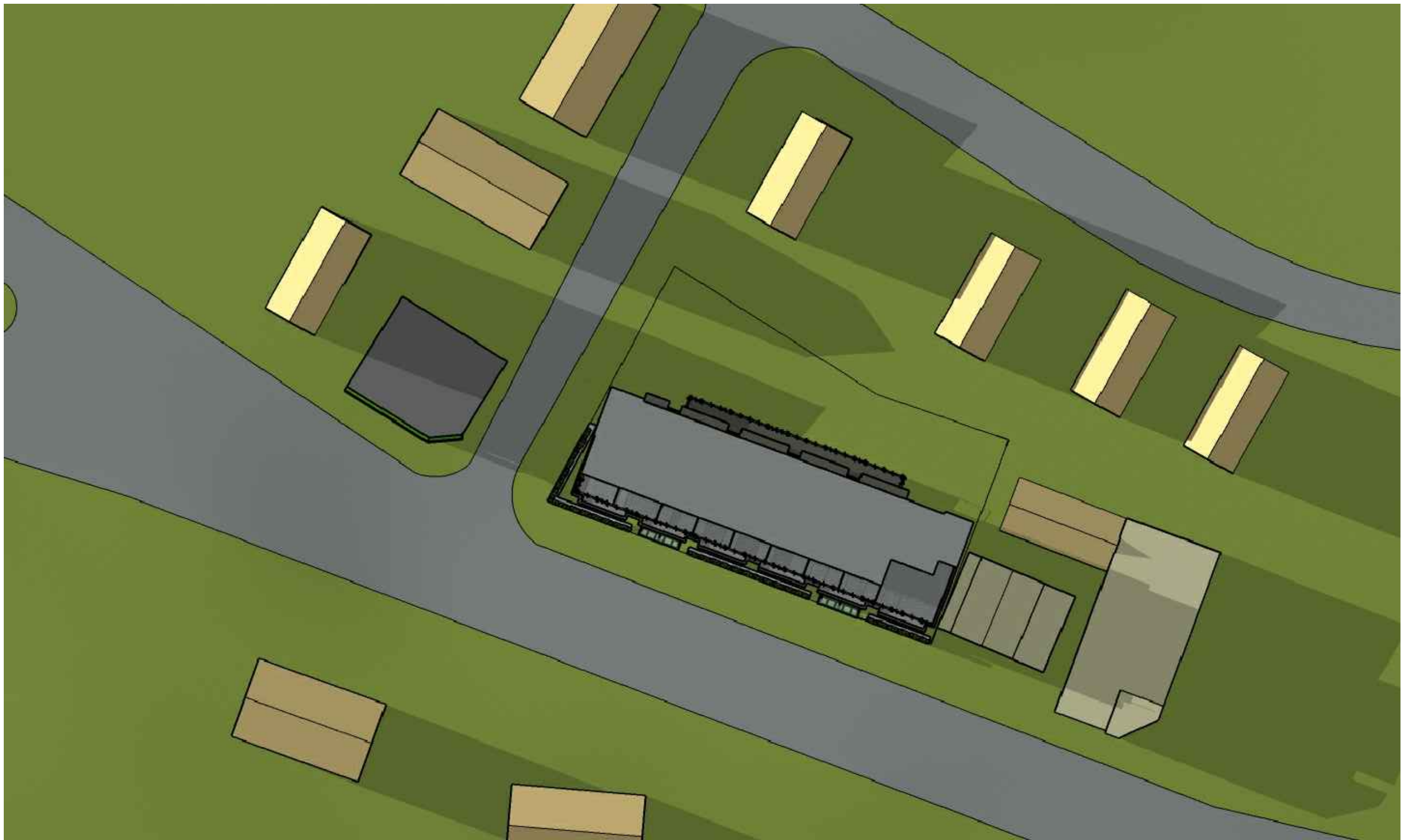
9:00 AM



12:00 PM



3:00 PM

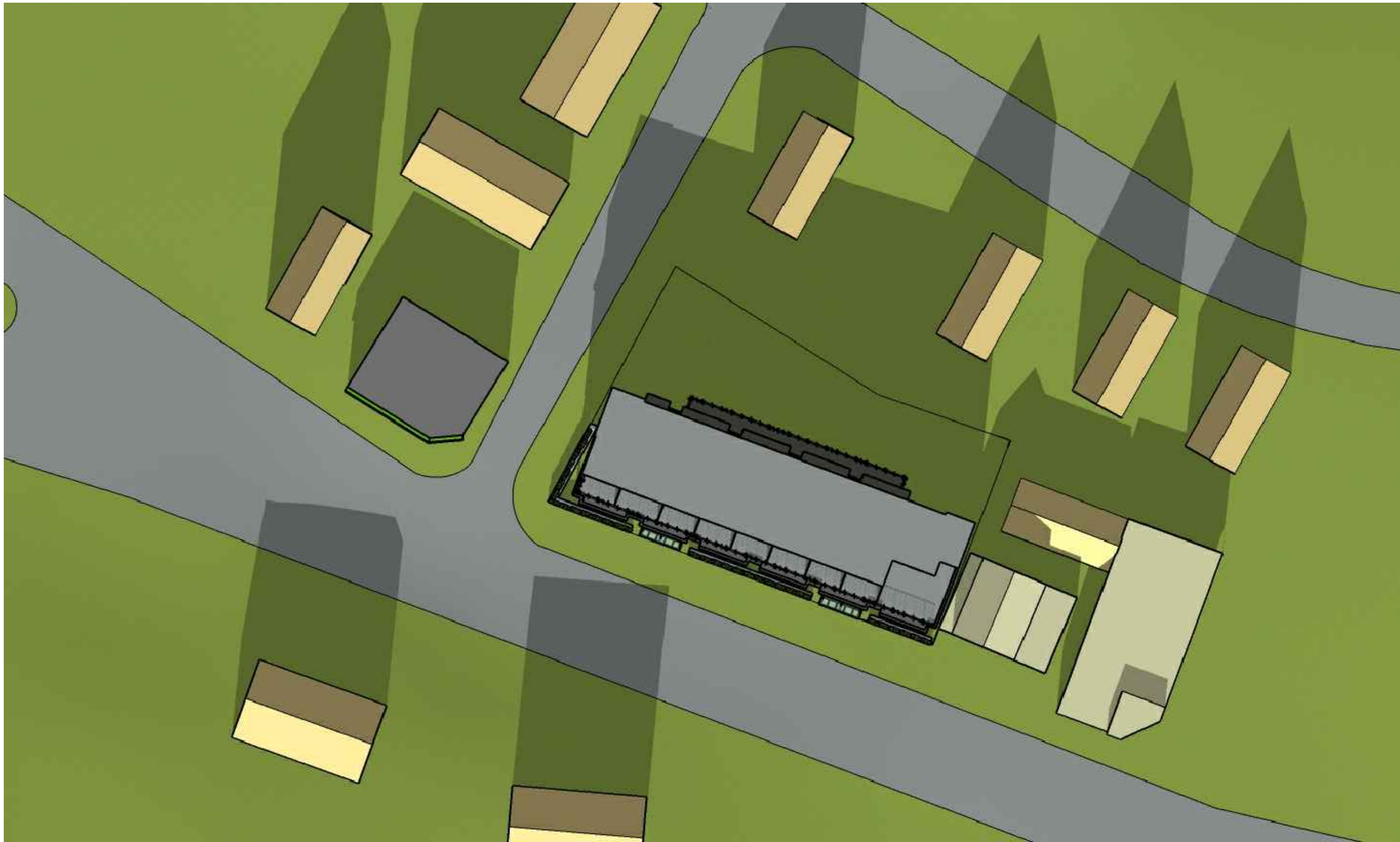


6:00 PM

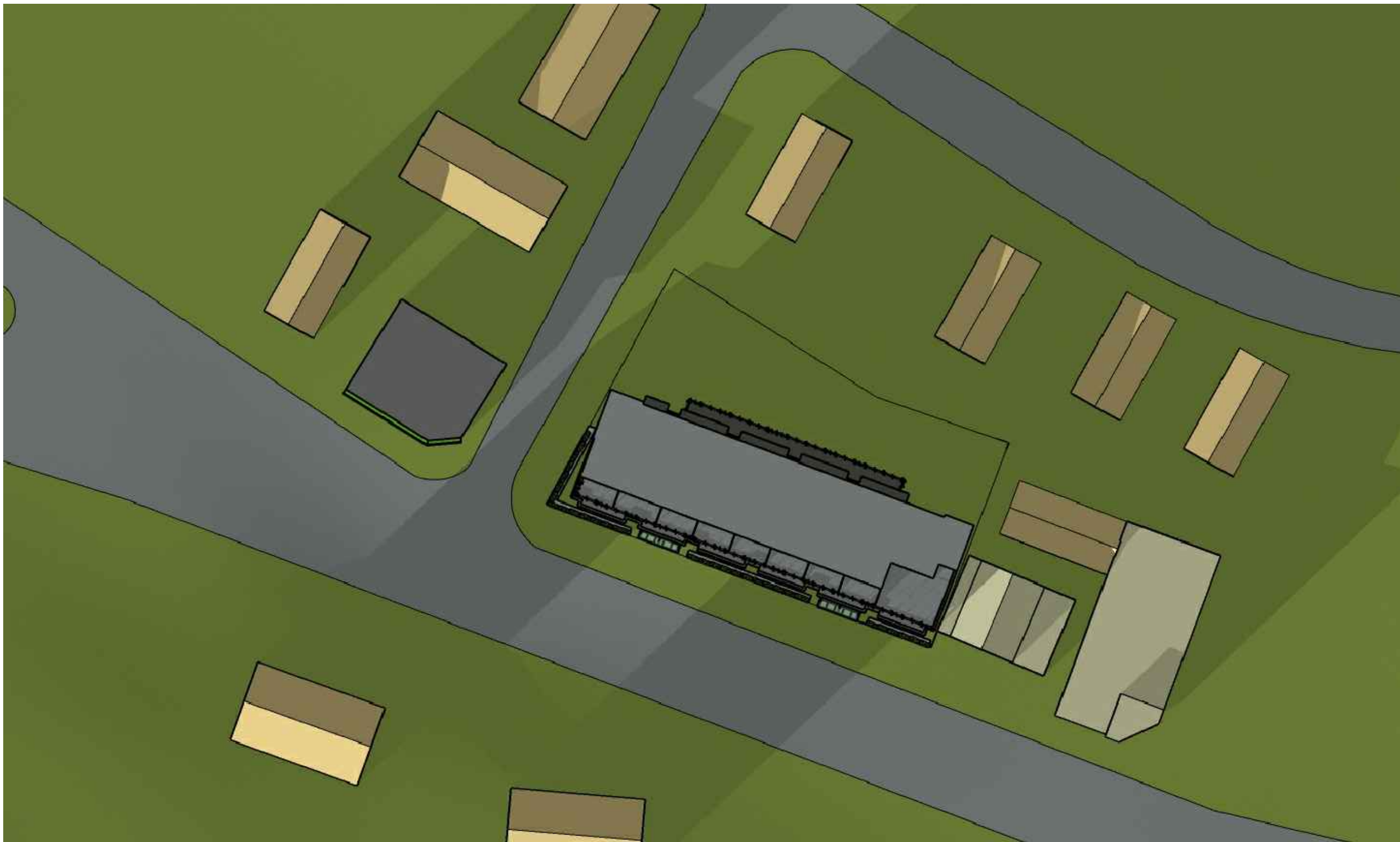
Winter Solstice



9:00 AM



12:00 PM

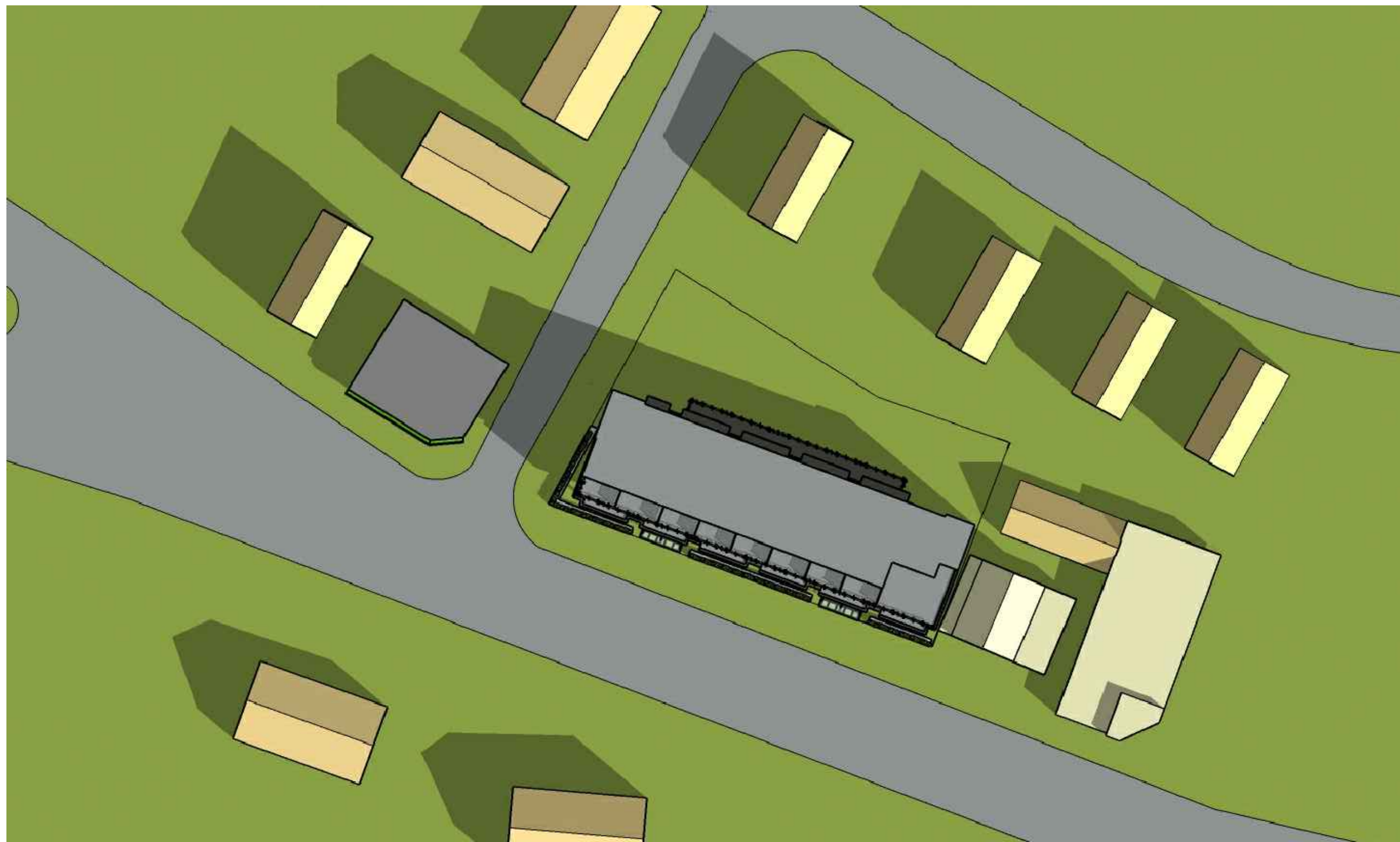


3:00 PM



6:00 PM

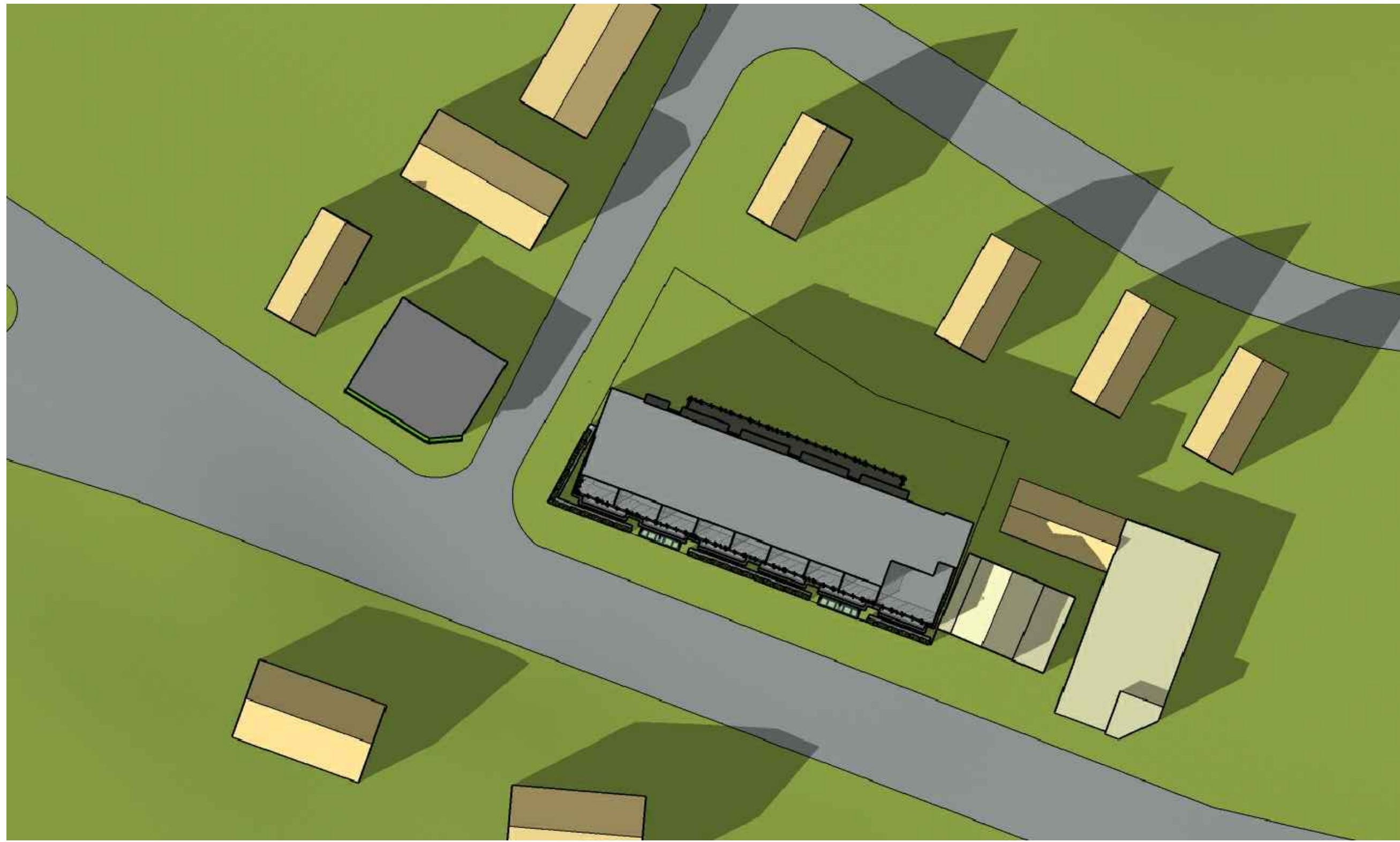
Autumn Equinox



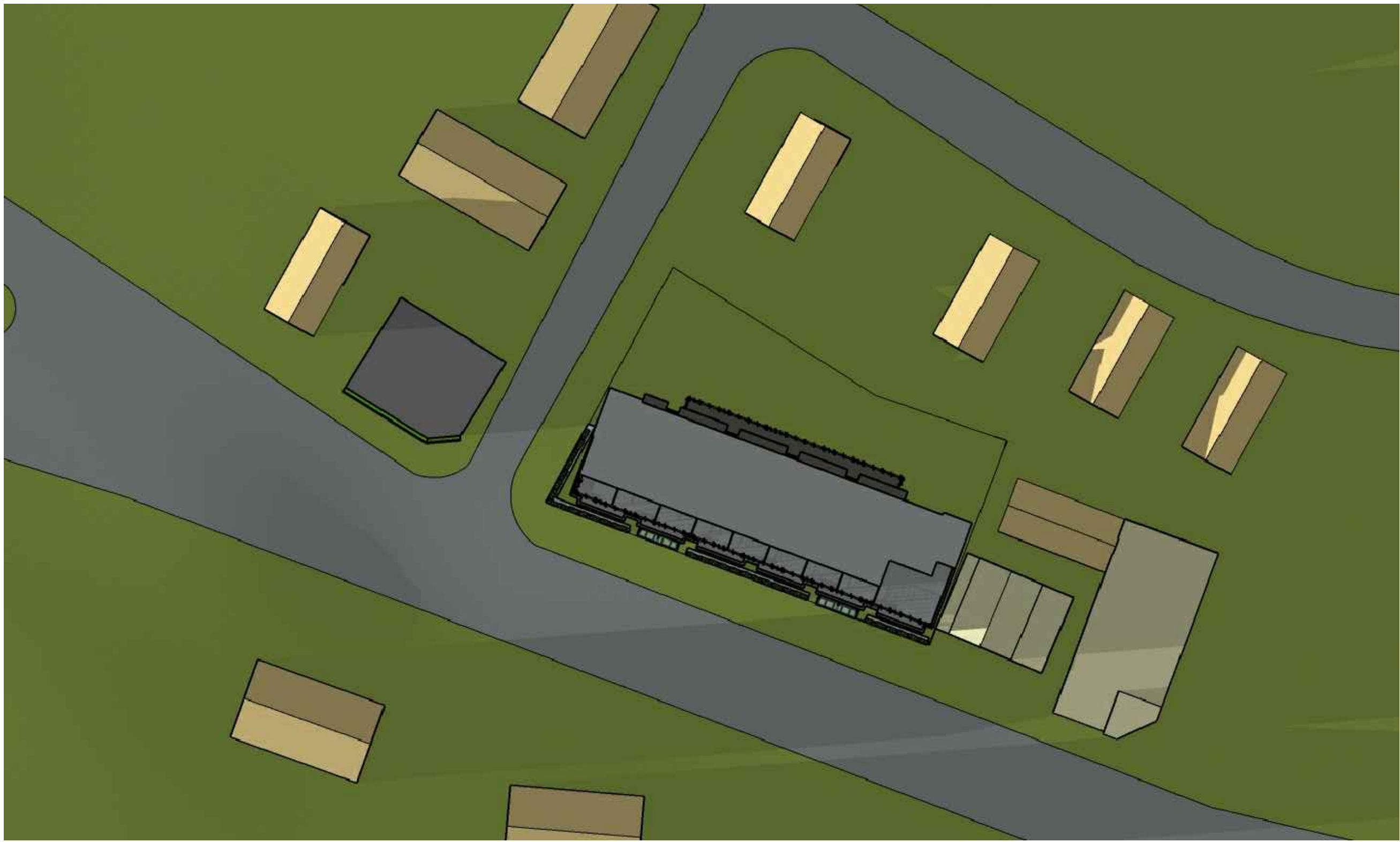
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12:00 PM

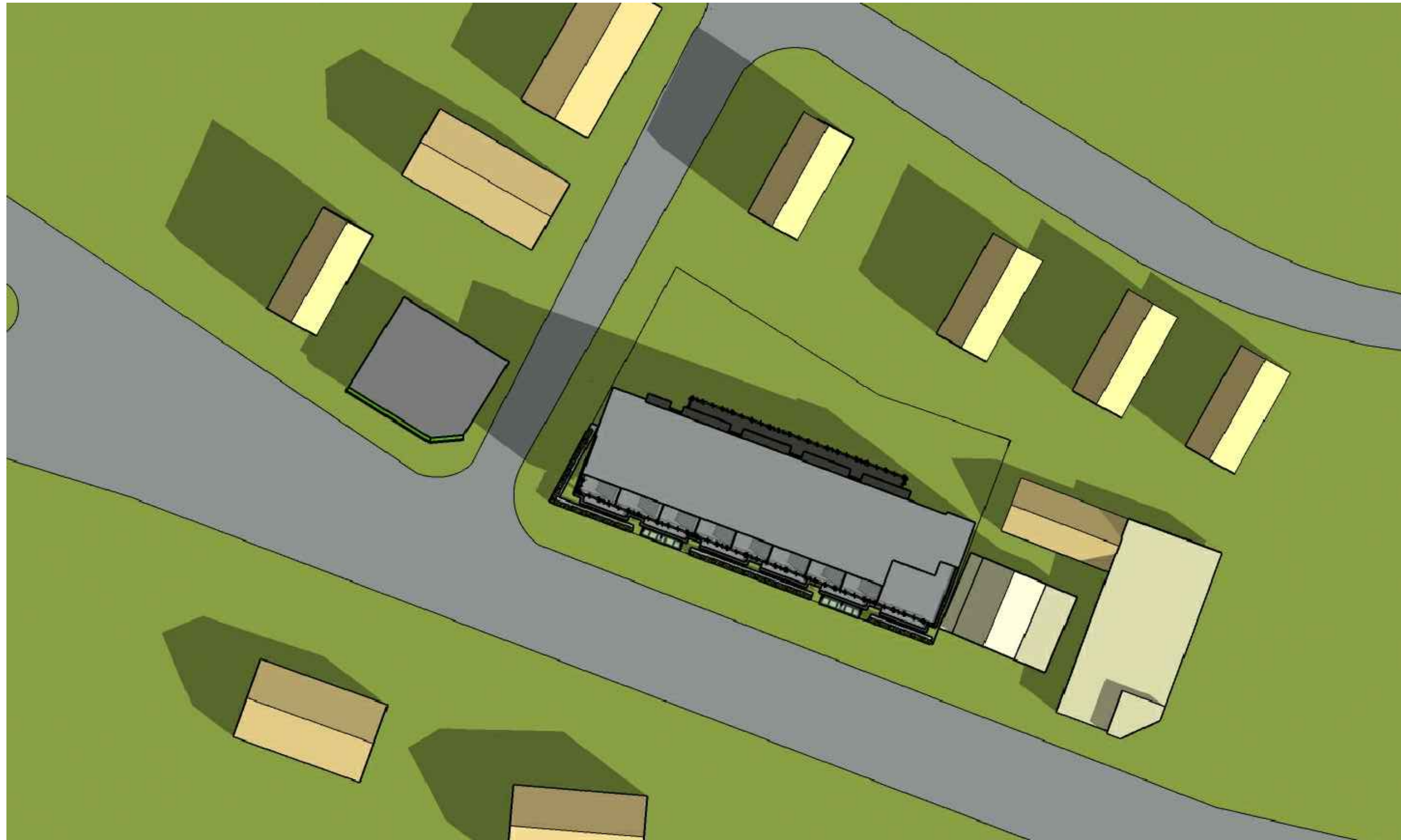


3:00 PM



6:00 PM

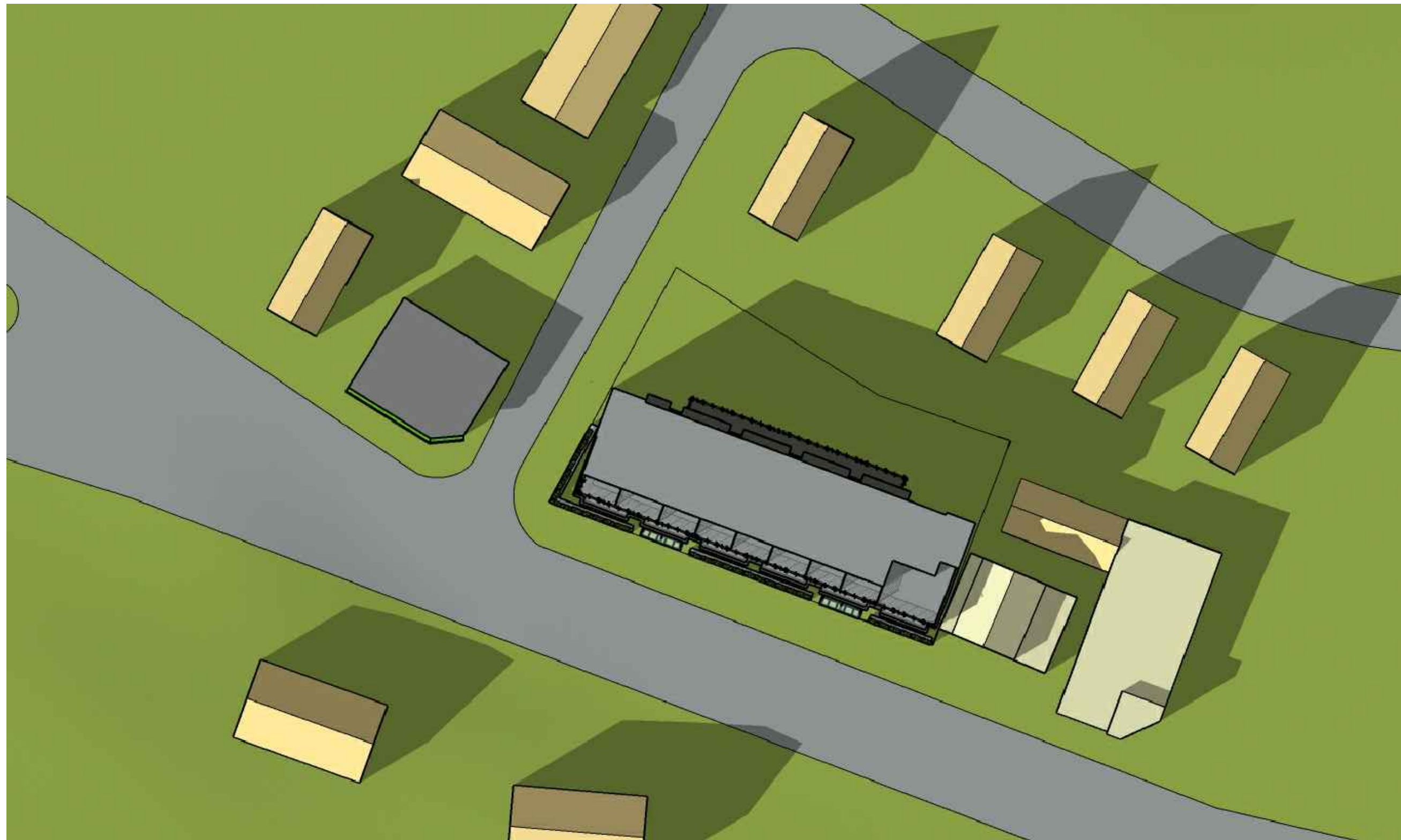
Spring Equinox



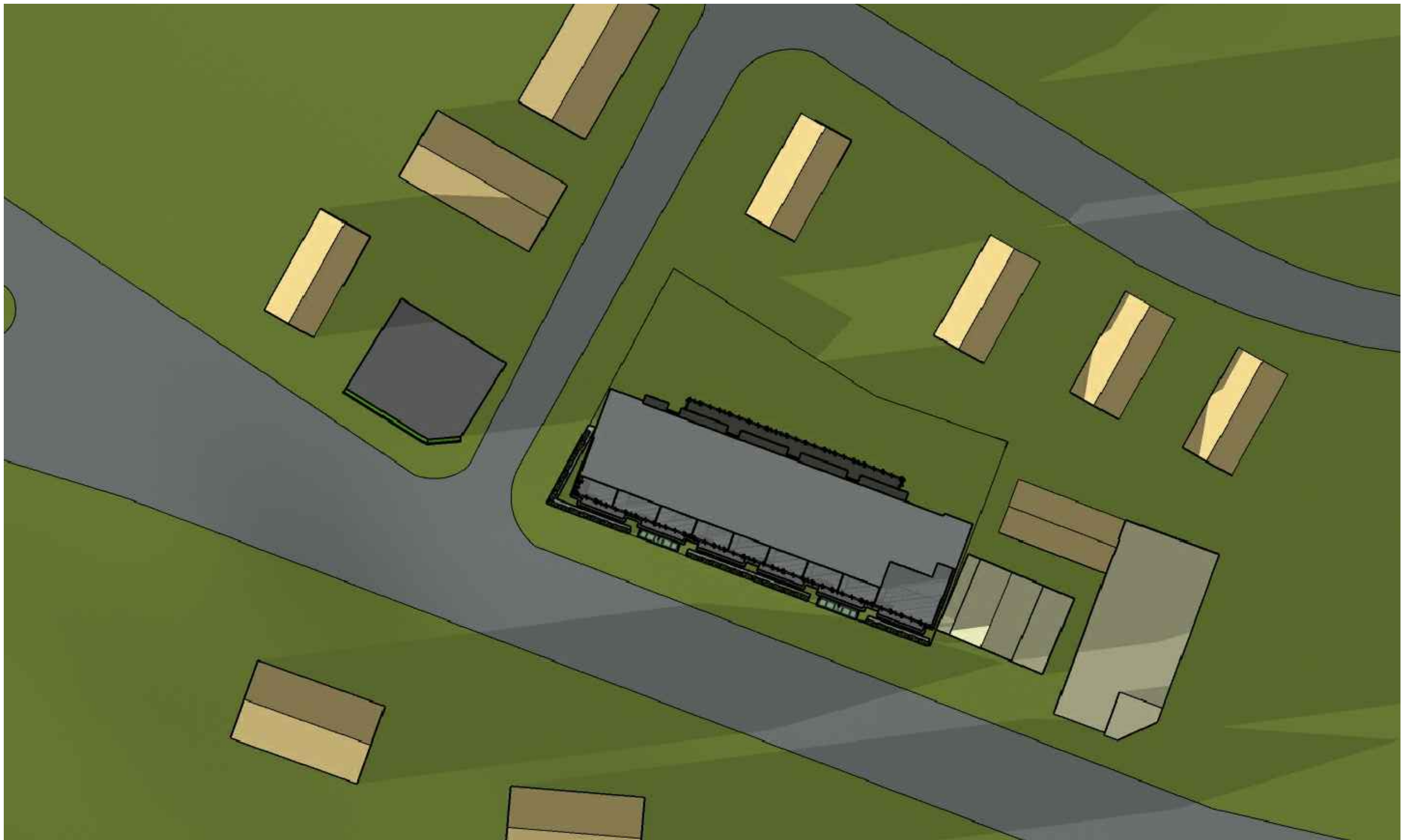
9:00 AM



12:00 PM



3:00 PM



6:00 PM

PLANNING & COMMUNITY
DEVELOPMENT

KRATTENMAKER O'CONNOR & INGBER P.C.

ATTORNEYS AT LAW

2020 JAN 21 P 2:08

ONE MCKINLEY SQUARE
BOSTON, MASSACHUSETTS 02109
TELEPHONE (617) 523-1010
FAX (617) 523-1009

CHARLES G. KRATTENMAKER, JR.
MARY WINSTANLEY O'CONNOR
KENNETH INGBER

OF COUNSEL: RAYMOND SAYEG

January 21, 2020

VIA EMAIL

Jennifer Raitt, Director
Department of Planning and Community
Development
Town of Arlington
730 Massachusetts Avenue
Arlington, MA 02476

Re: Docket No. 3602 / 1207-1211 Massachusetts Avenue

Dear Jenny:

Thank you for your memorandum of January 7, 2020. I will respond to the items raised in the order in which you have listed them.

1. A traffic study will be submitted by Mr. Doherty.
2. See the revised plans.
3. The revised plans show screening where the proposed mechanical's will be located. This also reflects a reduction in the proposed venting for the building at this time. It should be noted that the final locations will be determined on the IFC (Issued for Construction) plans and will not be visible to the surrounding neighborhood.
4. See the updated information attached as Exhibit "A".
5. See the updated information attached as Exhibit "B".
6. The petitioner will not be providing this information as it is proprietary and is not relevant to the relief requested.
7. This information was provided in the materials delivered on January 2, 2020. There are two properties with solar panels behind the subject property – 18 Pierce Street and 24 Clark Street. Neither is impacted.
8. See the updated information attached.
9. Resolved – no response required.

KRATTENMAKER O'CONNOR & INGBER P.C.

Jennifer Raitt, Director

January 21, 2020

Page 2

Comments provided by ARB:

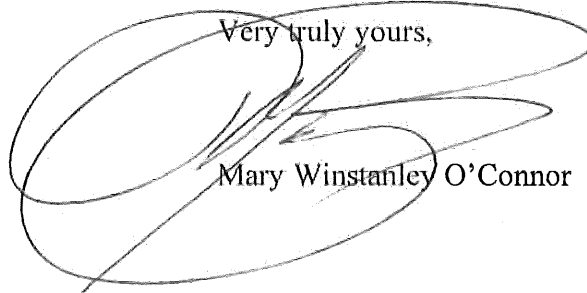
1. A draft traffic study will be submitted by Mr. Doherty.
2. Updated information was included in the package delivered on December 2, 2019. Additional information will be provided with the submission on January 20, 2020.
3. Resolved – no response is required.
4. Resolved as indicated above. Additional detailed information will be included in the January 20, 2020 submission.
5. Detailed information will be included in the January 20, 2020 submission.
6. Resolved – no response required.
7. Resolved – no response required.
8. Resolved – no response required.
9. This has been revised and was included in the December 2, 2019 submission.
10. I would suggest that no parking is required for the restaurant as it is a prior nonconforming use. The DAV had a kitchen and restaurant and had no parking. I would suggest that this is substantially similar to the restaurant use being proposed for the Balich 5 & 10, where no parking is available on site.
11. Resolved – no response required.
12. Resolved – no response required.
13. Resolved – no response required.
14. Updated information will be provided with the January 20, 2020 submission.

KRATTENMAKER O'CONNOR & INGBER P.C.

Jennifer Raitt, Director
January 21, 2020
Page 3

Please do not hesitate to contact me to discuss this matter. In advance, I thank you.

Very truly yours,

A large, stylized handwritten signature in dark ink, consisting of several overlapping loops and a long horizontal stroke extending to the right.

Mary Winstanley O'Connor

MWO/ccg
Enclosures
6214

cc: James Doherty

Exhibit A

The FAR for this proposal is 1.5 as provided for by the mixed use bylaws. As mentioned in your correspondence, Section 5.3.6 provides for bonus space based on certain criteria.

For this proposal we are requesting a modest increase of 10% or 2,104 s.f.. This request is based on the 'Public Access' provision and will provide for a public art and presentation area located in the front right area of the lot. We intend to provide through an easement to allow various groups the opportunity to have presentations and events for the community.

Exhibit B

As detailed on our revised plans, we are providing open space on three sides of the proposed building; the rear, left side and in front of the building. The open space will consist of a grass landscaped area and pervious paver area. The total will be 2,741 s.f.

Lighting

The lighting proposed for the site will consist of energy efficient LED low profile lighting. Deflectors and other technology will be utilized to ensure lighting does not spill into the neighborhood. To ensure the desired results are achieved, we will be conducting a photometric study prior to finalizing the installation.

To: James Doherty
1211 Massachusetts Avenue Realty Trust

Date: January 16, 2020

From: Michael A. Santos, PE

Proj. No. 28408.00

Re: 1211 Massachusetts Avenue – Arlington, MA
Traffic Information Summary

BSC Group, Inc. has conducted an evaluation of the transportation characteristics and impacts of the proposed hotel development to be located at 1211 Massachusetts Avenue (the “Project”) in Arlington, Massachusetts. This evaluation provides information related to trip generation characteristics of the Project, vehicular circulation and operations on the site, and parking supply.

Project Description

The Project will consist of the construction of a new 50-room hotel and restaurant at 1211 Massachusetts Avenue. The Project site is located along the north side of Massachusetts Avenue and is adjacent to Clark Street on the west. Vehicular access will be provided by a valet operated pick-up/drop-off area with two curb cuts along Massachusetts Avenue. Access to the parking area will be along the east side of Clark Street, on the north side of the site.

The existing site consists of both 1207 and 1211 Massachusetts Avenue and contains a 2,500 square foot (sf) Disabled American Veterans (DAV) building, a used car dealership, an automobile service station, and a three-bedroom apartment, which contains 3,031 sf. There are currently two curb cuts along Massachusetts Avenue and one curb cut along Clark Street that provide access to the existing uses on the site. The DAV building recently closed and operated similarly to a restaurant. All uses on the existing site will be demolished as part of the Project.

Site Access

Vehicular access to the site will be limited to pick-up/drop-off and valet operations. A one-way, semi-circular driveway will be located at the front of the site, adjacent to Massachusetts Avenue. Two-curb cuts will be provided to allow westbound vehicular flow through the site, with the eastern curb cut operating as enter-only and the western curb cut operating as exit-only. An additional curb cut will be provided along the east side of Clark Street to provide access to the parking area in the rear of the building. Right-turns onto Clark Street northbound from the parking area will not occur, as the parking will be valet and controlled by the hotel operator.

Pedestrian access will be provided for the hotel lobby and the restaurant along Massachusetts Avenue. Sidewalks are currently provided along Massachusetts Avenue and Clark Street, with a painted crosswalk across Clark Street. The Project will upgrade all adjacent sidewalks, curb ramps, and crosswalks that serve the site to current standards set forth by the Americans with Disabilities Act (ADA). Bicycle racks will be provided for guests and visitors along Massachusetts Avenue. A secure and covered bicycle storage room will be provided within the lower level of the building for employees of the future uses on the site.

The Massachusetts Bay Transportation Authority (MBTA) operates the #77 and #79 buses along Massachusetts Avenue, adjacent to the Project site, with inbound and outbound stops immediately east of the site, near the intersection of Massachusetts Avenue/Appleton Street. Both buses provide access between Arlington Heights and the MBTA’s Red Line. The #77 bus provides access to Harvard Station.

approximately 4.5 miles to the east, and the #79 bus provides access to Alewife Station, approximately 2.5 miles to the east.

Parking and Loading

The Project will provide a total of 27 parking spaces for the hotel uses. A tandem-style garage will be located in the rear of the building on the north side of the site and will contain 24 parking spaces. An additional three spaces will be located along the north side of the site in a surface lot. All parking on the site will be valet and will serve both the hotel and restaurant uses. The Project will not have any spaces for self-parking. On-street parking is allowed along both sides of Massachusetts Avenue. The Project will not change the overall number of available on-street parking spaces.

All loading and trash operations will occur in the rear of the building via the Clark Street curb cut. Deliveries will occur either in the pick-up/drop-off area or in the rear of the building, depending on the anticipated duration. Deliveries and loading operations will be limited to single-unit box trucks and smaller vehicles.

Trip Generation

Trip generation estimates for the Project are based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. Trip generation estimates were developed for the proposed 50-room hotel. Table 1 presents the trip generation for the Project.

Table 1
Trip Generation Summary

	Project Trips			Existing Trips					
				Automobile					
Time Period	Hotel ¹	Restaurant ²	Total	DAV Club ²	Auto Dealership ³	Service Station ⁴	Apartment ⁵	Total	Net Change
AM Peak Hour									
Entering	14	15	29	15	1	3	0	19	+10
Exiting	10	13	23	13	0	1	1	15	+8
Total	24	28	52	28	1	4	1	34	+18
PM Peak Hour									
Entering	15	17	32	17	0	3	1	21	+11
Exiting	15	10	25	10	1	2	0	13	+12
Total	30	27	57	27	1	5	1	34	+23

1 Based on ITE Land Use Code (LUC) 310 – Hotel (50 Rooms)

2 Based on ITE LUC 932 – High Turnover Sit Down Restaurant (2,800 sf)

3 Based on ITE LUC 841 – Automobile Sales, Used (264 sf)

4 Based on ITE LUC 942 – Automobile Care Center (1,650 sf)

5 Based on ITE LUC 220 – Multi-Family Housing, Low-Rise (1 unit)

Based on the trip generation and mode share data, the Project is expected to generate 52 vehicle trips during the weekday morning peak hour and 57 vehicle trips during the weekday evening peak hour. When compared to the existing uses on the site, this results in a net increase of 18 trips during the weekday morning peak hour and 23 trips during the weekday evening peak hour.

The peak hour trips are typically the most critical because those time periods are when the adjacent roadways experience the highest traffic demands throughout the course of the day. The peak hour increases represent

approximately one additional trip every 2-4 minutes.

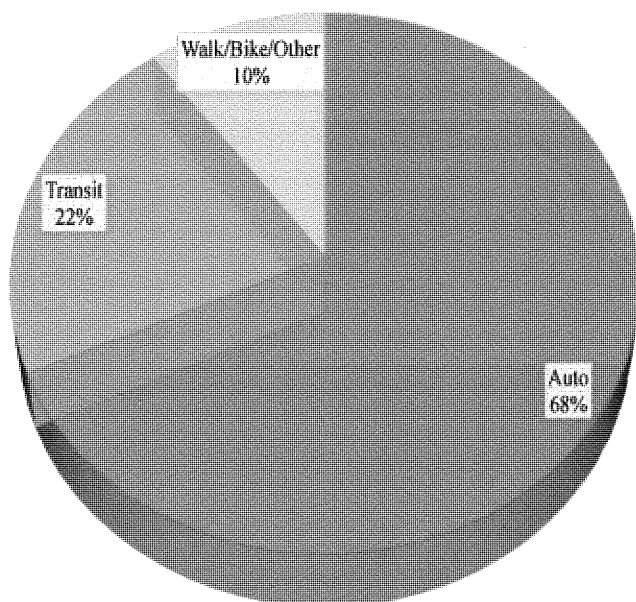
The trip generation estimates provided in Table 1 do not consider alternative modes of transportation such as walking, bicycling, and transit usage. Based on the location of the site and the proximity to two highly used MBTA bus routes (Routes #77 and #79), it is expected that a portion of the trips will be made by public transportation. It is also expected that a portion of the hotel-related trips will be made by taxi or ride-hailing service and will not use Clark Street for parking purposes. The following section discusses the mode shares for travel in the vicinity of the Project.

Modes of Travel

Mode-split data for the census tract in Arlington in which the Project site is located were obtained from the United States Census. The primary modes of travel for the Project are expected to be transit, walk/bicycling, and vehicular usage. The US Census provides travel mode shares over the course of an average weekday for commuting purposes only. However, the mode shares to provide an insight into the availability and convenience of non-vehicular modes of travel. The mode shares for the census tract in which the Project site is located are presented in **Figure 1**.

Figure 1
Modes of Travel

DAILY MODE SHARE
ARLINGTON, MASSACHUSETTS



As shown in Figure 1, the predominant mode of commuting travel in this area of Arlington is by vehicle (68 percent). Transit trips account for approximately 22 percent of travel and the remaining 10 percent of trips are made by walking, biking, or other travel modes.

As previously stated, the mode shares represent daily commuting trips. It is expected that the hotel and restaurant usage of the Project will include taxi trips and may not exactly reflect commuting patterns. Additionally, the restaurant will serve the hotel guests and residents of the surrounding neighborhoods, allowing for a further reduction in vehicle-based trips. Further, the commuter mode share percentages do indicate that there are opportunities other than driving for guests of the hotel once they are on-site.

Summary

This evaluation indicates that the proposed development is expected to generate a minimal amount of vehicular traffic during the commuter peak hours (approximately one new trip every 3-4 minutes). The Project is expected to have a minimal impact on the surrounding roadway network throughout most of the day. The periods that will experience the most impact will occur mostly during off-peak hours. Hotels typically have check-in times in the early afternoon and check-out times in the late morning, which is

outside of commuter peaks. The restaurant will have the highest impacts after the weekday evening commuter peak hour when traffic volumes are typically lower.

The Project will provide on-site parking for 27 vehicles, which will be operated by the hotel's valet service. Self-parking will not be provided on the site. The parking will be valet-only and will be operated by the hotel. Right-turns from the parking area on to Clark Street northbound will not occur and the Project will have minimal impact to the residential neighborhood north of the site. All loading, trash servicing, and deliveries will occur on the Project site and will not have impacts to Massachusetts Avenue or Clark Street. As part of the Project, all adjacent sidewalks, crosswalks, and curb ramps will be upgraded in accordance with ADA standards.



LEED v4.1 BD+C: Hospitality Project Checklist

Lexington Hotel

1/20/2020

0	0	0	0	Materials and Resources	13
Y				Storage and Collection of Recyclables	Required
Y				Construction and Demolition Waste Management Planning	Required
				Building Life-Cycle Impact Reduction	5
				Building Product Disclosure and Optimization - Environmental Product	2
				Building Product Disclosure and Optimization - Sourcing of	2
				Building Product Disclosure and Optimization - Material In	2
				Construction and Demolition Waste Management	2

Y	Prereq	Minimum Indoor Air Quality Performance	Required
Y	Prereq	Environmental Tobacco Smoke Control	Required
		Enhanced Indoor Air Quality Strategies	2
		Low-Emitting Materials	3
Y	Credit	Construction Indoor Air Quality Management Plan	1
		Indoor Air Quality Assessment	2
Y	Credit	Thermal Comfort	1
Y	Credit	Interior Lighting	2

Y		Credit	Quality Views	1
Y		Credit	Acoustic Performance	1
0	0	0	Innovation	6
		Credit	Innovation	5
Y		Credit	LEED Accredited Professional	1
0	0	0	Regional Priority	4

	Credit	Regional Priority:	Specific Credit	1
	Credit	Regional Priority:	Specific Credit	1
	Credit	Regional Priority:	Specific Credit	1
	Credit	Regional Priority:	Specific Credit	1
52	0	0	TOTALS	Possible Points: 110
40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum				

TOTALS	Possible Points:	110	
40 to 49 points,	Silver: 50 to 59 points,	Gold: 60 to 79 points,	Platinum

SPECIAL PERMIT - SITE PLAN REVIEW

1211 Massachusetts Avenue
Arlington, MA 02476

December 12, 2019



LINCOLN ARCHITECTS LLC
1 Mount Vernon Street, Suite 203
Winchester, MA 01890
781.721.7721

LOCUS PLAN



DRAWING LIST

ARCHITECTURAL	
COVER SHEET	
L1.1	EXISTING CONDITION DIAGRAM
L1.2	PROPOSED PLOT PLAN
L1.3	SITE PLAN / LANDSCAPING PLAN
A0.1	RENDERING IMAGE / VIEW FROM MASSACHUSETTS AVENUE
A0.2	RENDERING IMAGE / BIRDS EYE VIEW FROM MASSACHUSETTS AVENUE
A1.1	LOWER LEVEL/MAIN LEVEL FLOOR PLAN
A1.2	SECOND & THIRD FLOOR PLAN/FOURTH FLOOR PLAN
A4.1	BUILDING ELEVATIONS
A4.2	BUILDING ELEVATIONS
A5.1	EXISTING BUILDING - SHADOW STUDY/SUMMER SOLSTICE
A5.2	EXISTING BUILDING - SHADOW STUDY/WINTER SOLSTICE
A5.3	EXISTING BUILDING - SHADOW STUDY/AUTUMN EQUINOX
A5.4	EXISTING BUILDING - SHADOW STUDY/SPRING EQUINOX
A6.1	PROPOSED BUILDING - SHADOW STUDY/SUMMER SOLSTICE
A6.2	PROPOSED BUILDING - SHADOW STUDY/WINTER SOLSTICE
A6.3	PROPOSED BUILDING - SHADOW STUDY/AUTUMN EQUINOX
A6.4	PROPOSED BUILDING - SHADOW STUDY/SPRING EQUINOX



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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

EXISTING CONDITRIONS

Project Number
2017.032
Drawing Scale
1" = 20'
Drawn By
GMc
Checked By
GMc
Date Issued
12/12/19

L1.1

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PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SITE PLAN

Project Number

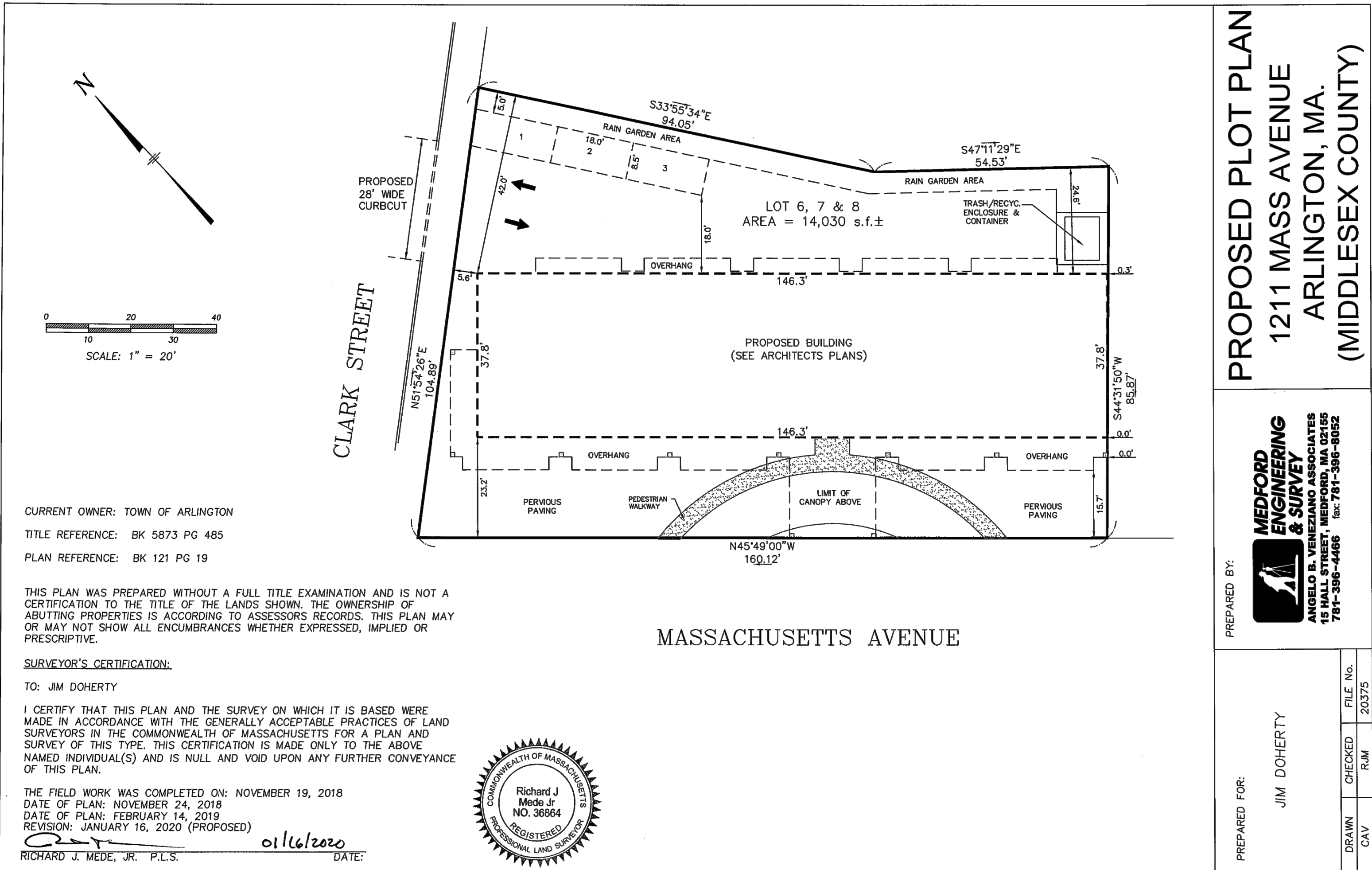
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PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

RENDERING

Project Number
2017.032

Drawing Scale
3/32"=1'-0"

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PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

RENDERING

Project Number
2017.032

Drawing Scale
3/32"=1'-0"

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PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

RENDERING
STREET VIEW #1

Project Number
2017.032

Drawing Scale
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Drawn By
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PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

RENDERING
STREET VIEW #2

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PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

PLANTING PLAN

Project Number
2017.032

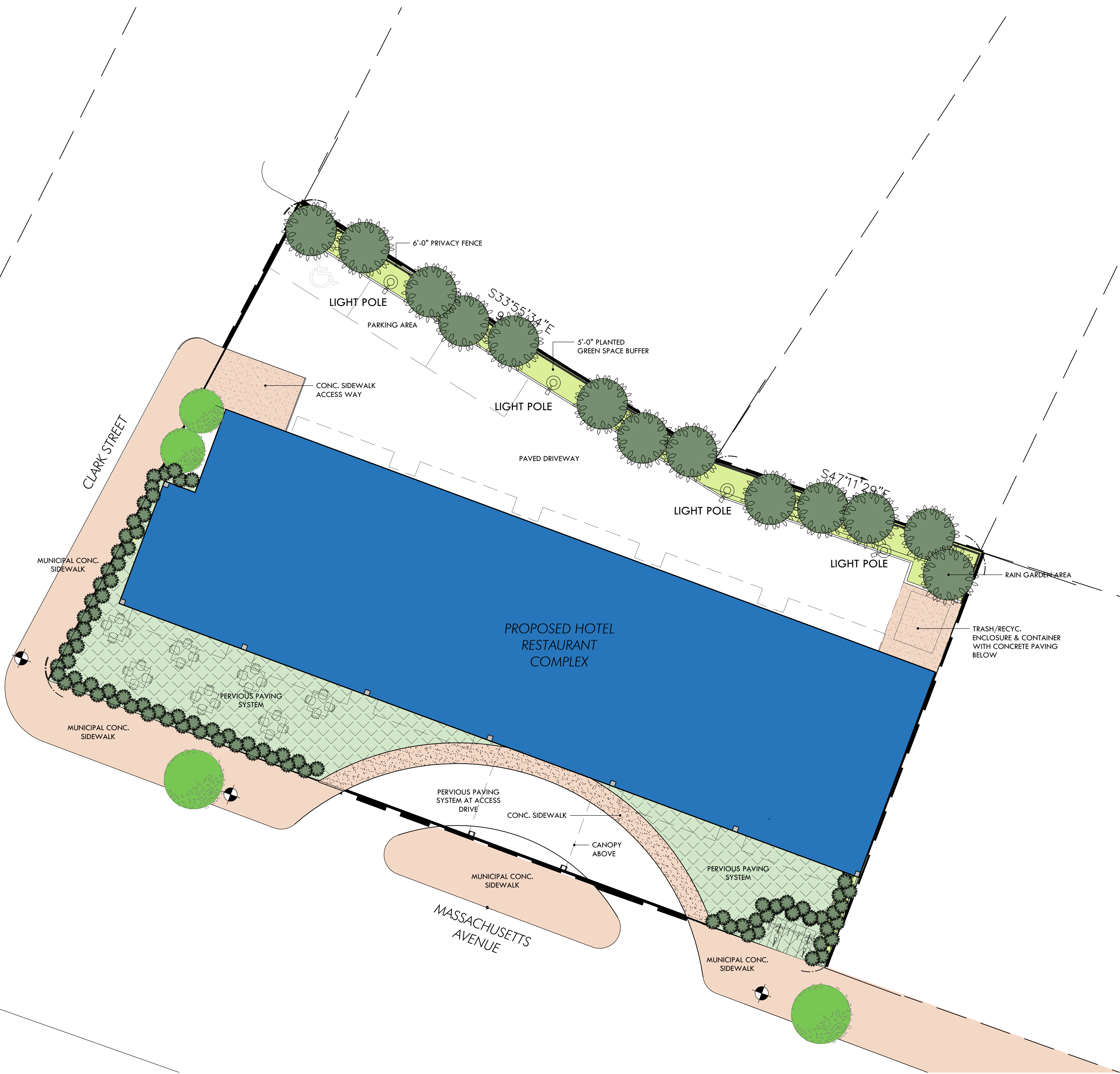
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1211 Massachusetts Avenue
Arlington, MA

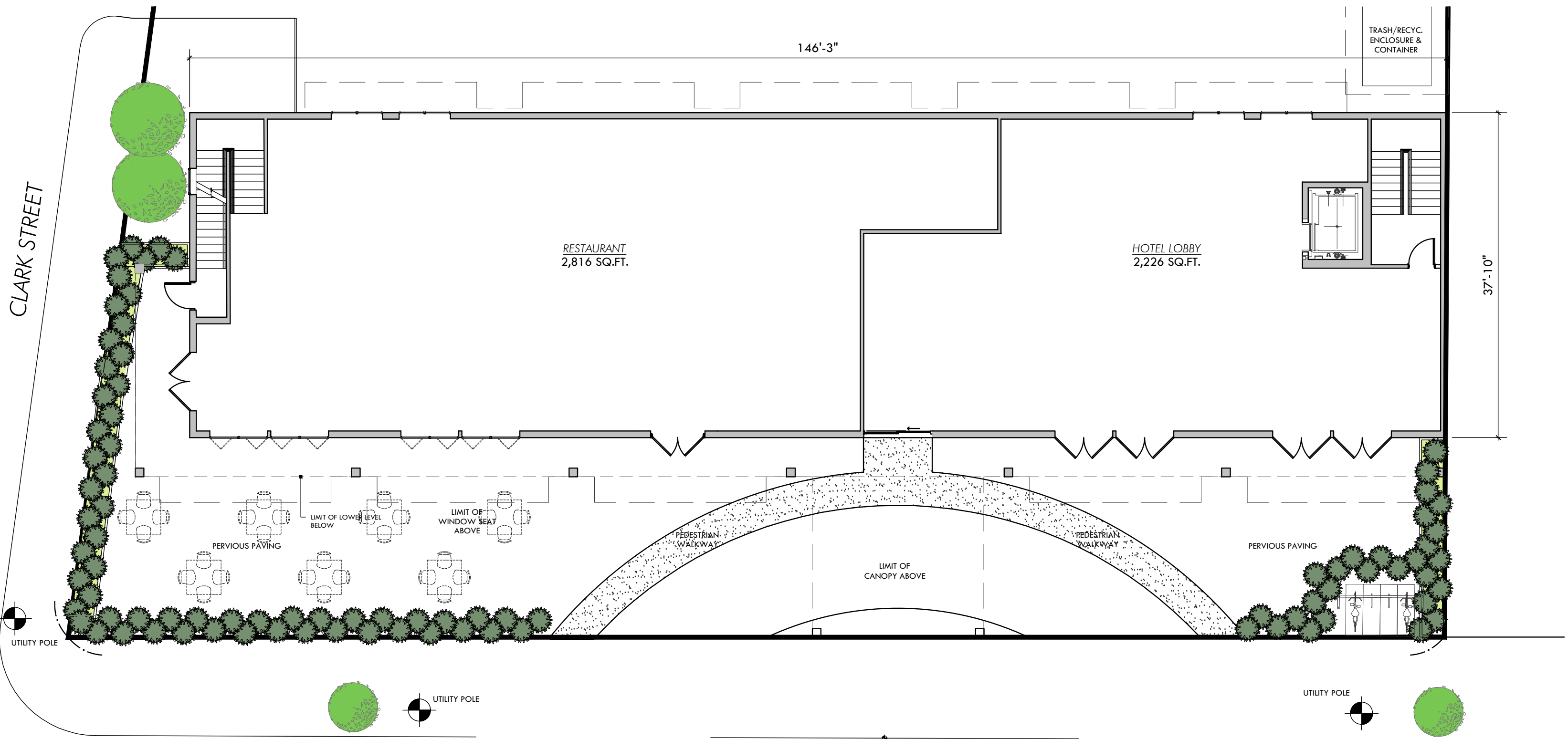
LOWER LEVEL
FIRST FLOOR
FLOOR PLANS

Project Number
2017.032
Drawing Scale
3/32"=1'-0"
Drawn By
GMc
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Date Issued
12/12/19

A1.1



1 LOWER LEVEL FLOOR PLAN
A1.1 SCALE: 3/32"=1'-0"



2 FIRST FLOOR PLAN
A1.1 SCALE: 3/32"=1'-0"

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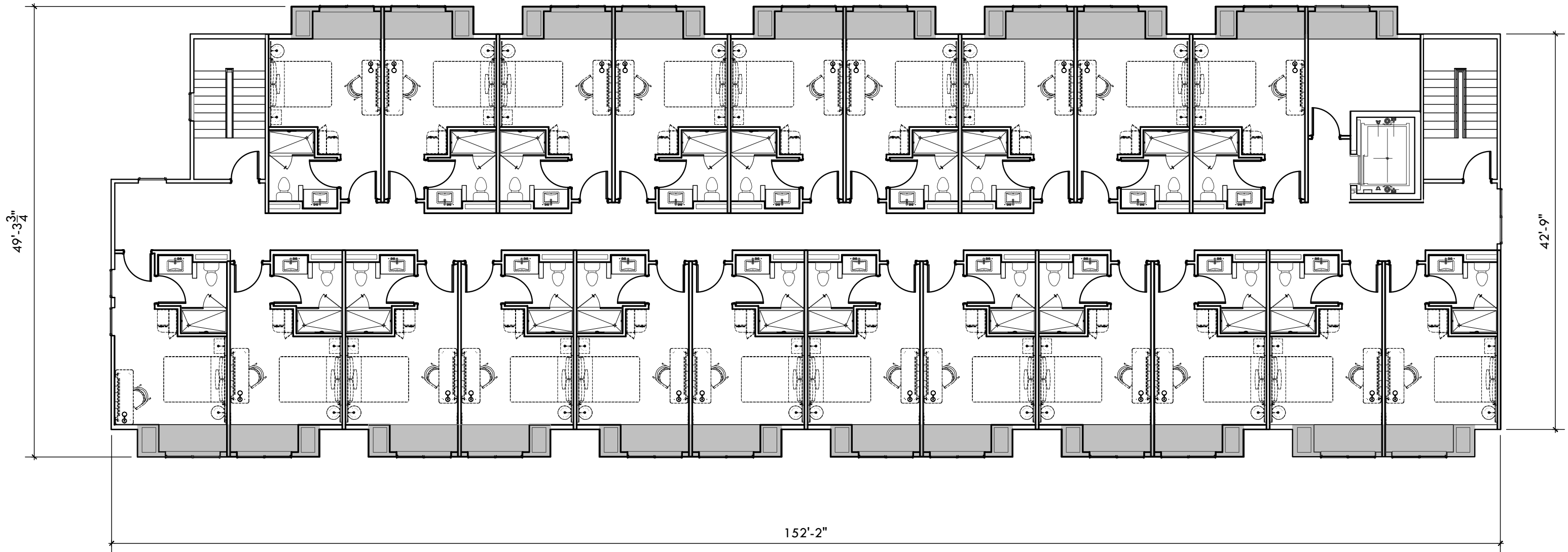
Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

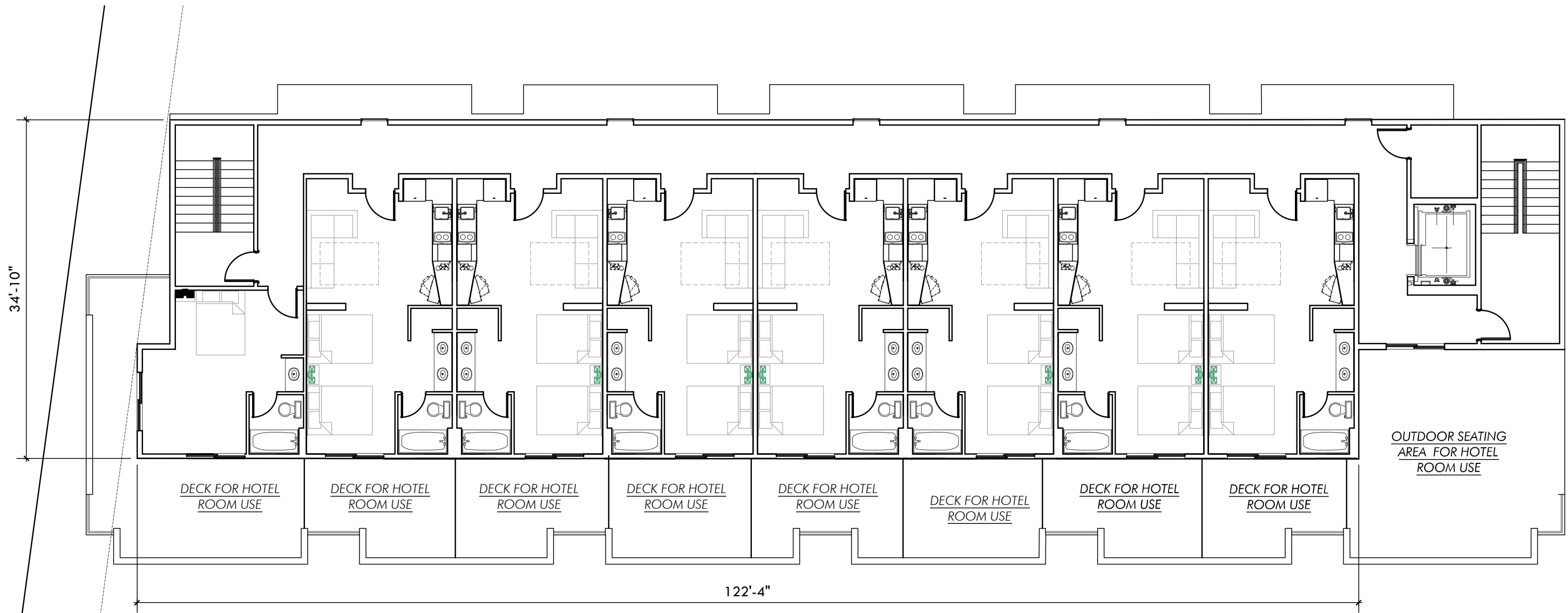
SECOND & THIRD FLOOR PLAN
FOURTH FLOOR PLAN

Project Number
2017.032
Drawing Scale
3/32"=1'-0"
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Checked By
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11/21/19

A1.2



1 SECOND & THIRD FLOOR PLAN
A1.2 SCALE: 3/32"=1'-0"



2 FOURTH FLOOR PLAN
A1.2 SCALE: 3/32"=1'-0"

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PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

BUILDING ELEVATIONS

Project Number
2017.032

Drawing Scale
1/8"=1'-0"

Drawn By
GMc

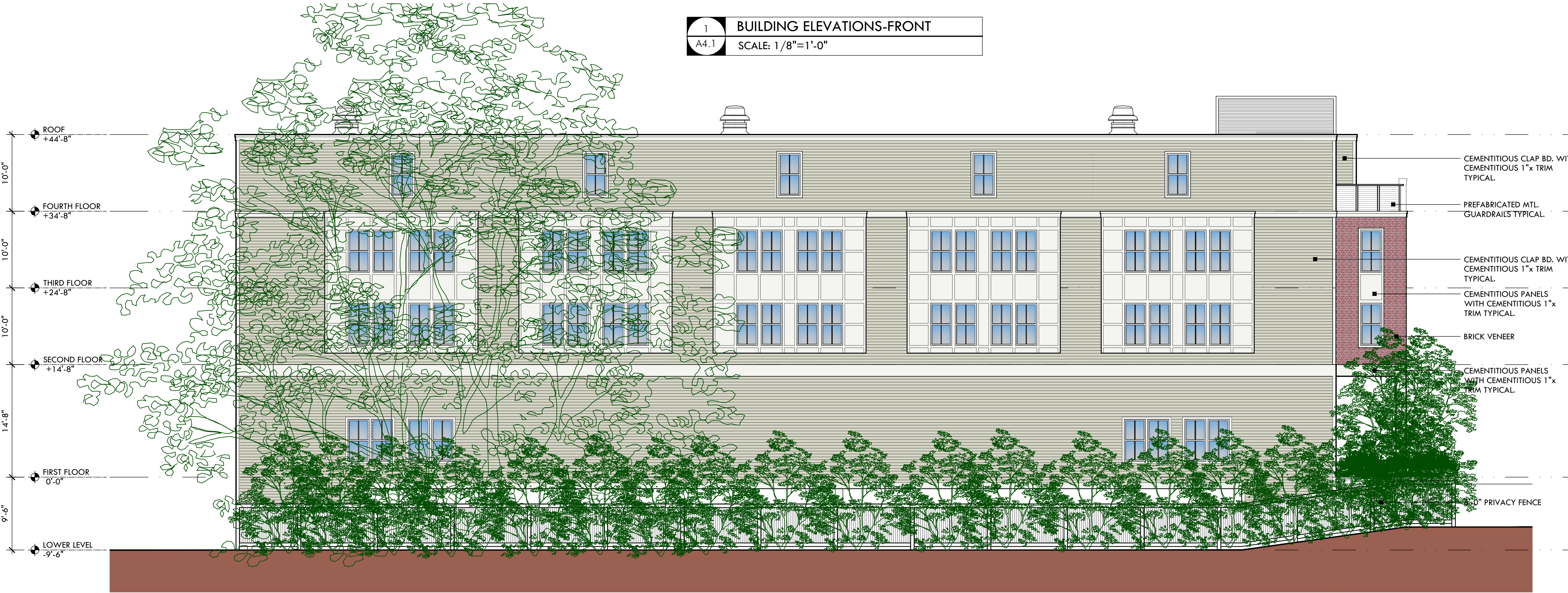
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Date Issued
12/12/19

A4.1



1 BUILDING ELEVATIONS-FRONT
A4.1 SCALE: 1/8"=1'-0"



2 BUILDING ELEVATIONS- REAR
A4.1 SCALE: 1/8"=1'-0"



1

A4.2

BUILDING ELEVATIONS-SIDE

SCALE: 1/8"=1'-0"

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PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

BUILDING ELEVATIONS

Project Number
2017.032
Drawing Scale
1/8"=1'-0"
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PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SHADOW STUDY
EXISTING CONDITIONS
SUMMER SOLSTICE

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PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SHADOW STUDY
EXISTING CONDITIONS
WINTER SOLSTICE

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2017.032

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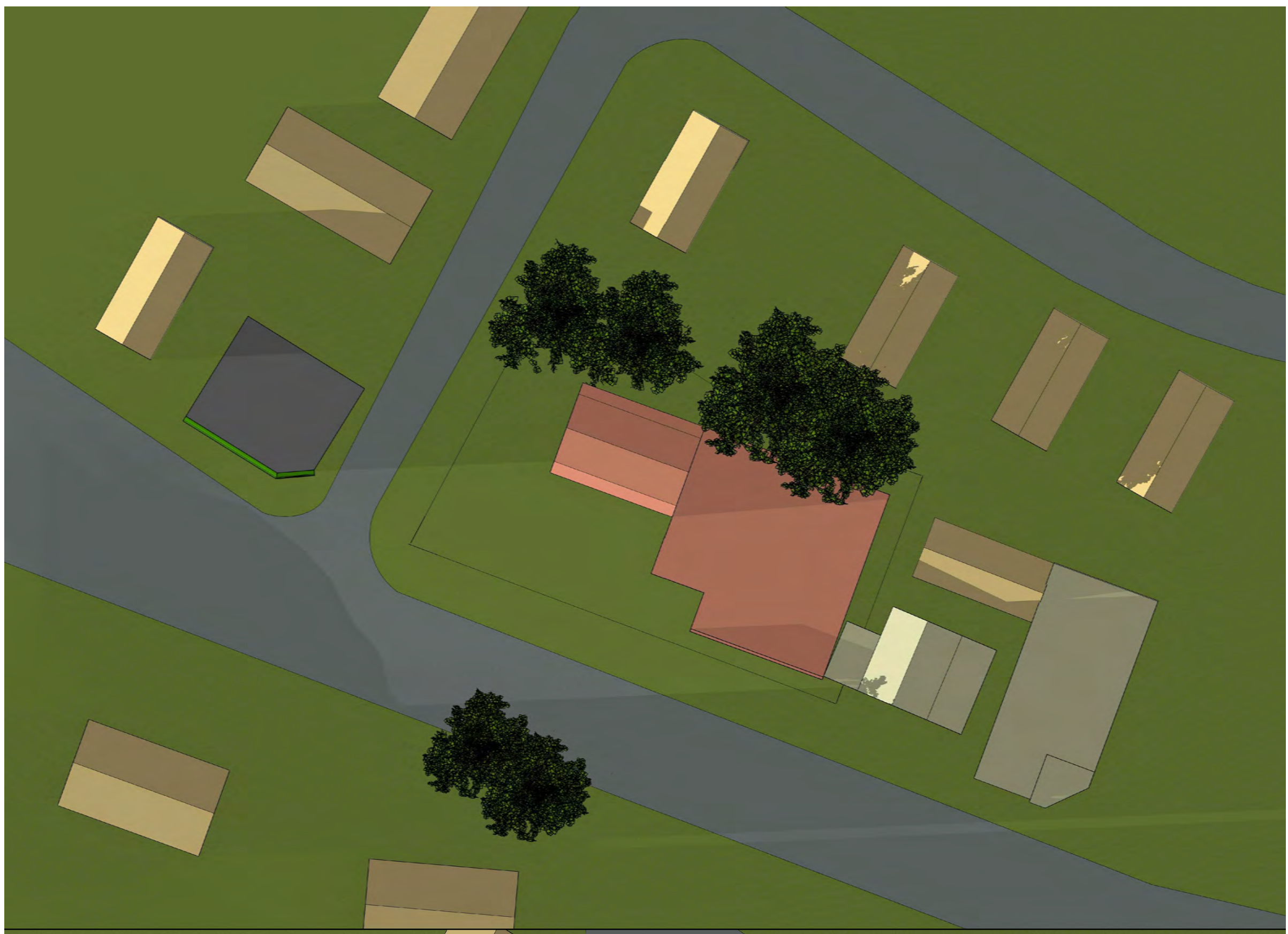
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PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SHADOW STUDY
EXISTING CONDITIONS
AUTUMN EQUINOX

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A5.3



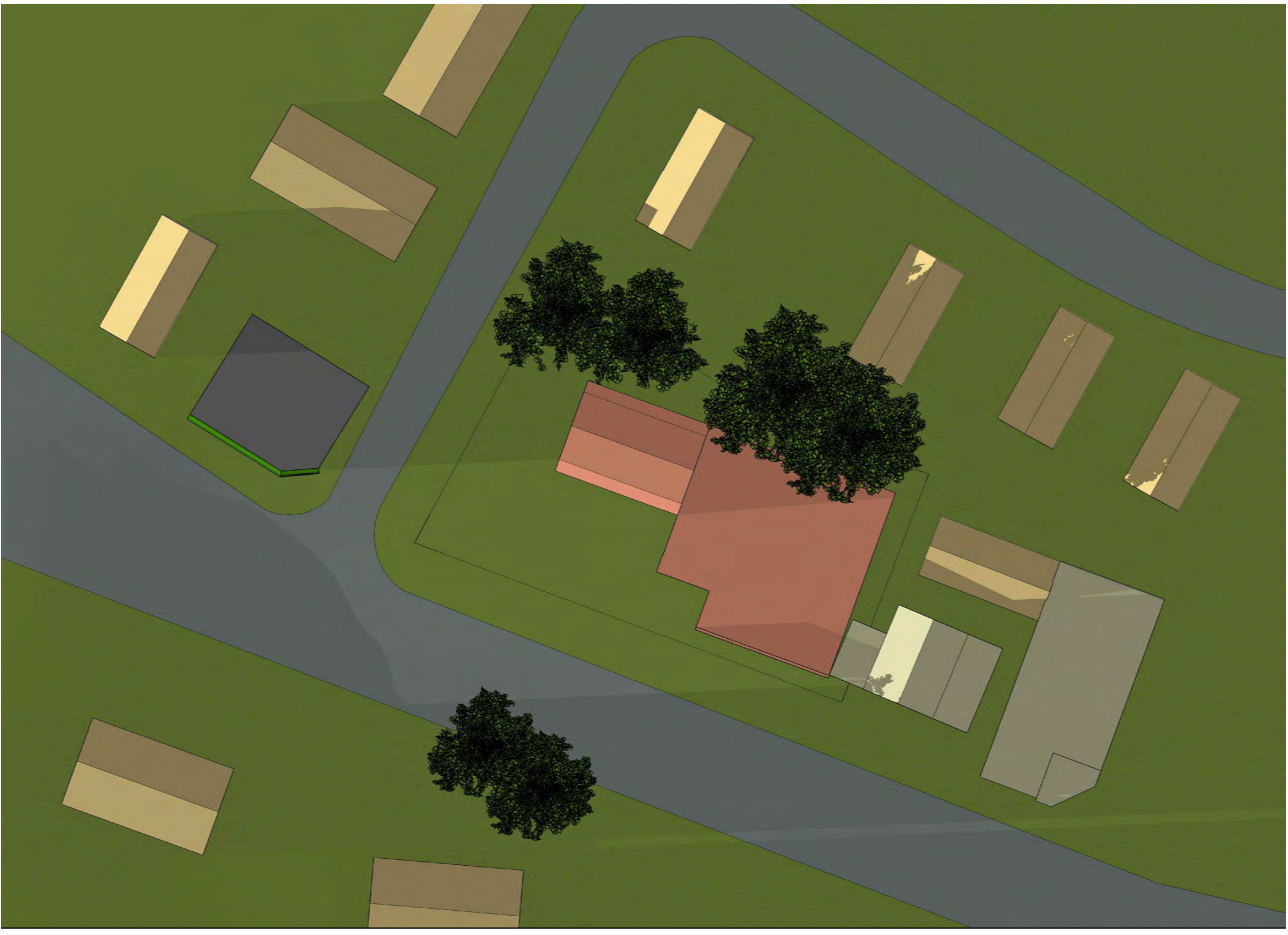
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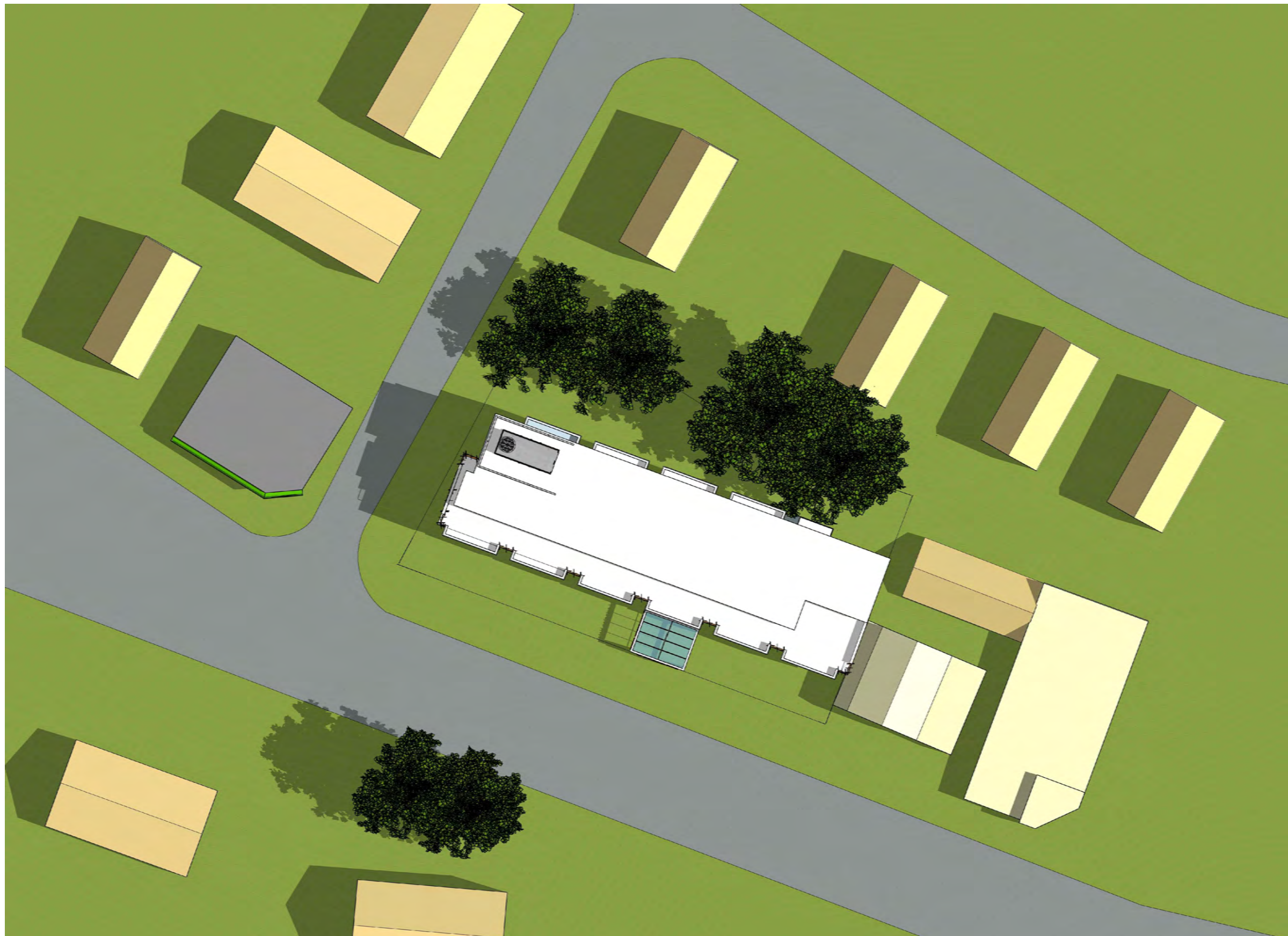
Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

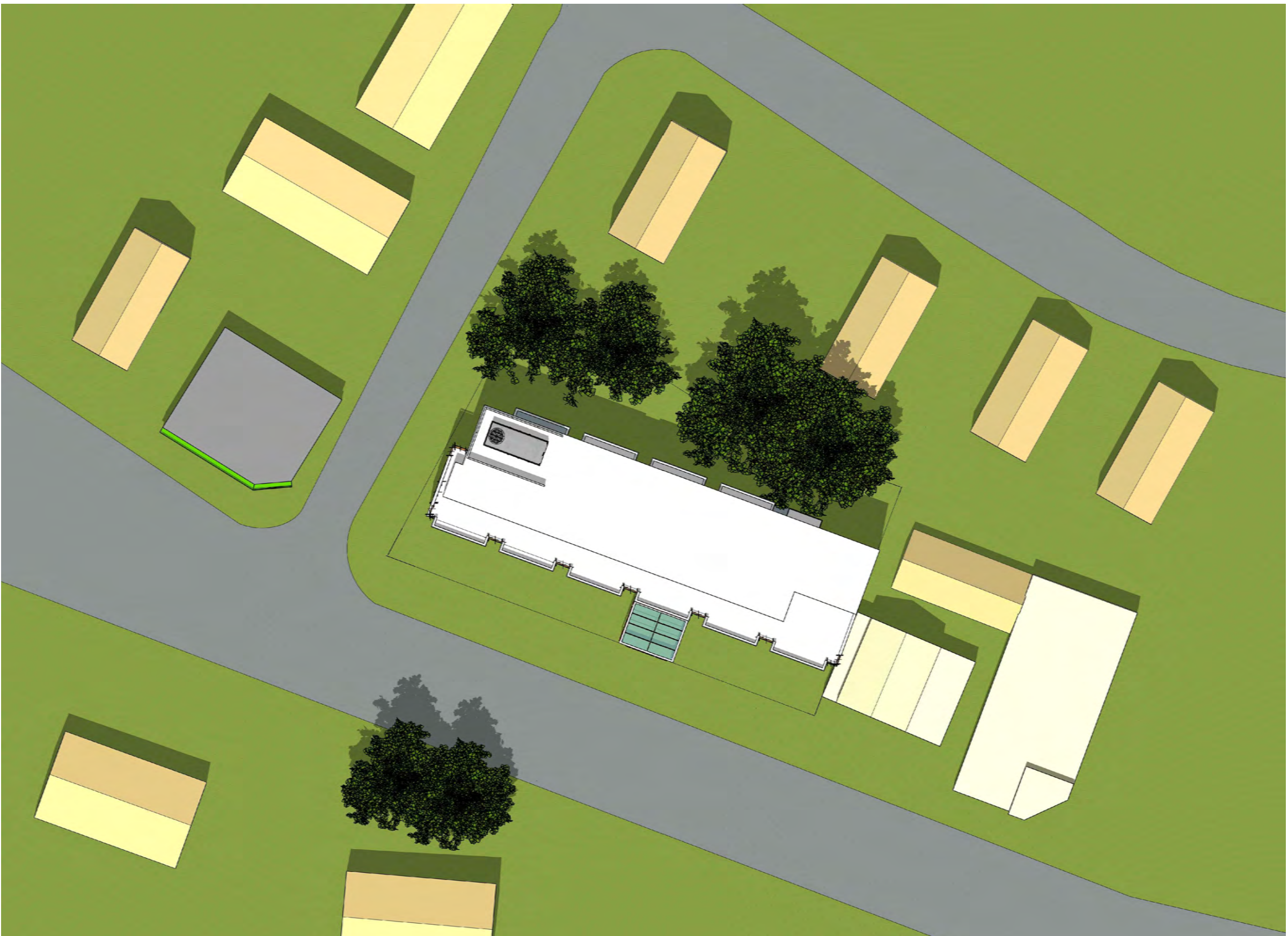
SHADOW STUDY
EXISTING CONDITIONS
SPRING EQUINOX

Project Number 2017.032
Drawing Scale N.T.S.
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Date Issued 12/12/19

A5.4



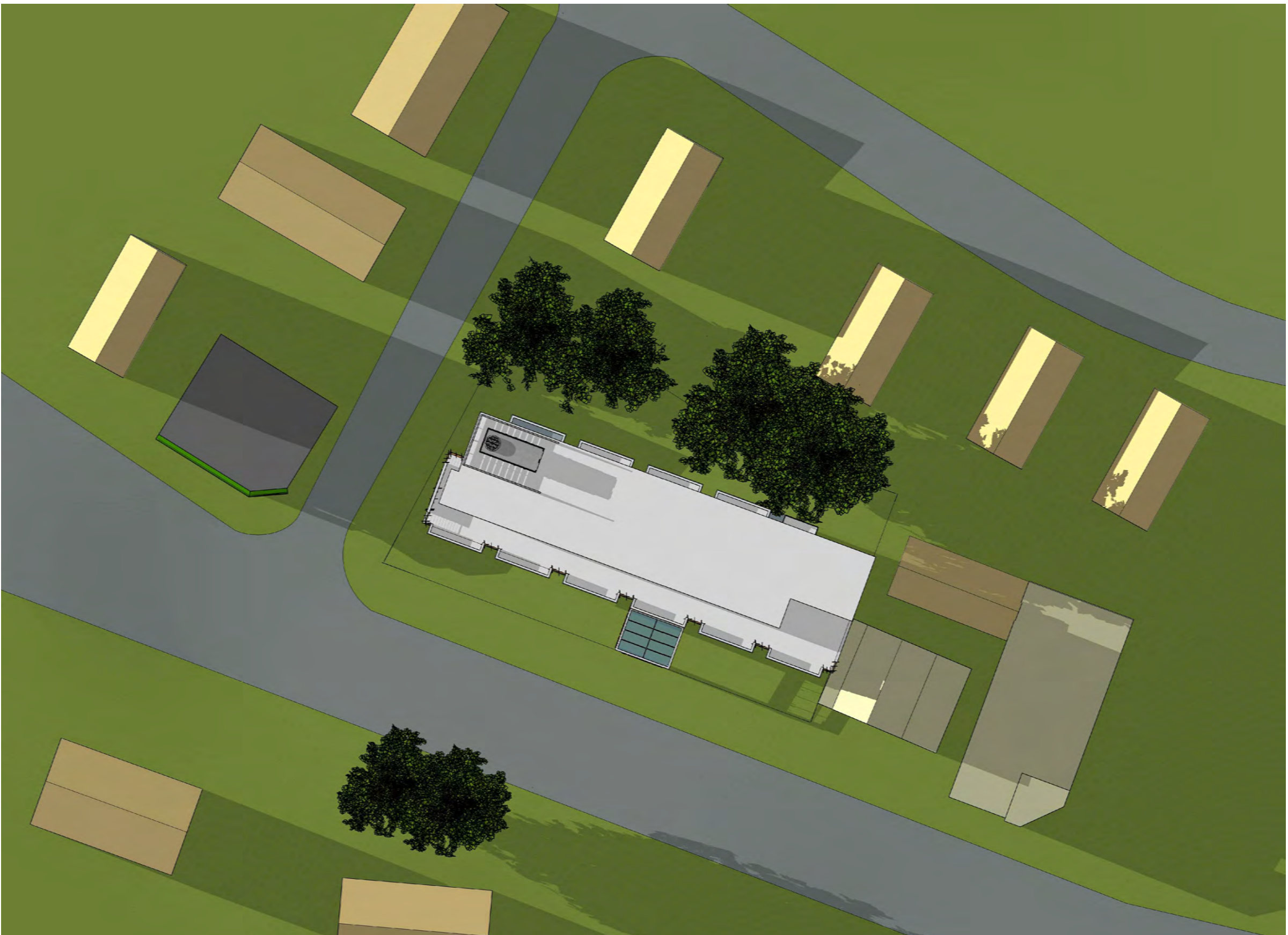
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PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SHADOW STUDY
PROPOSED BUILDING
SUMMER SOLSTICE

Project Number 2017.032
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PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SHADOW STUDY
PROPOSED BUILDING
WINTER SOLSTICE

Project Number
2017.032
Drawing Scale
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Drawn By
GMe
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Date Issued
12/12/19

A6.2



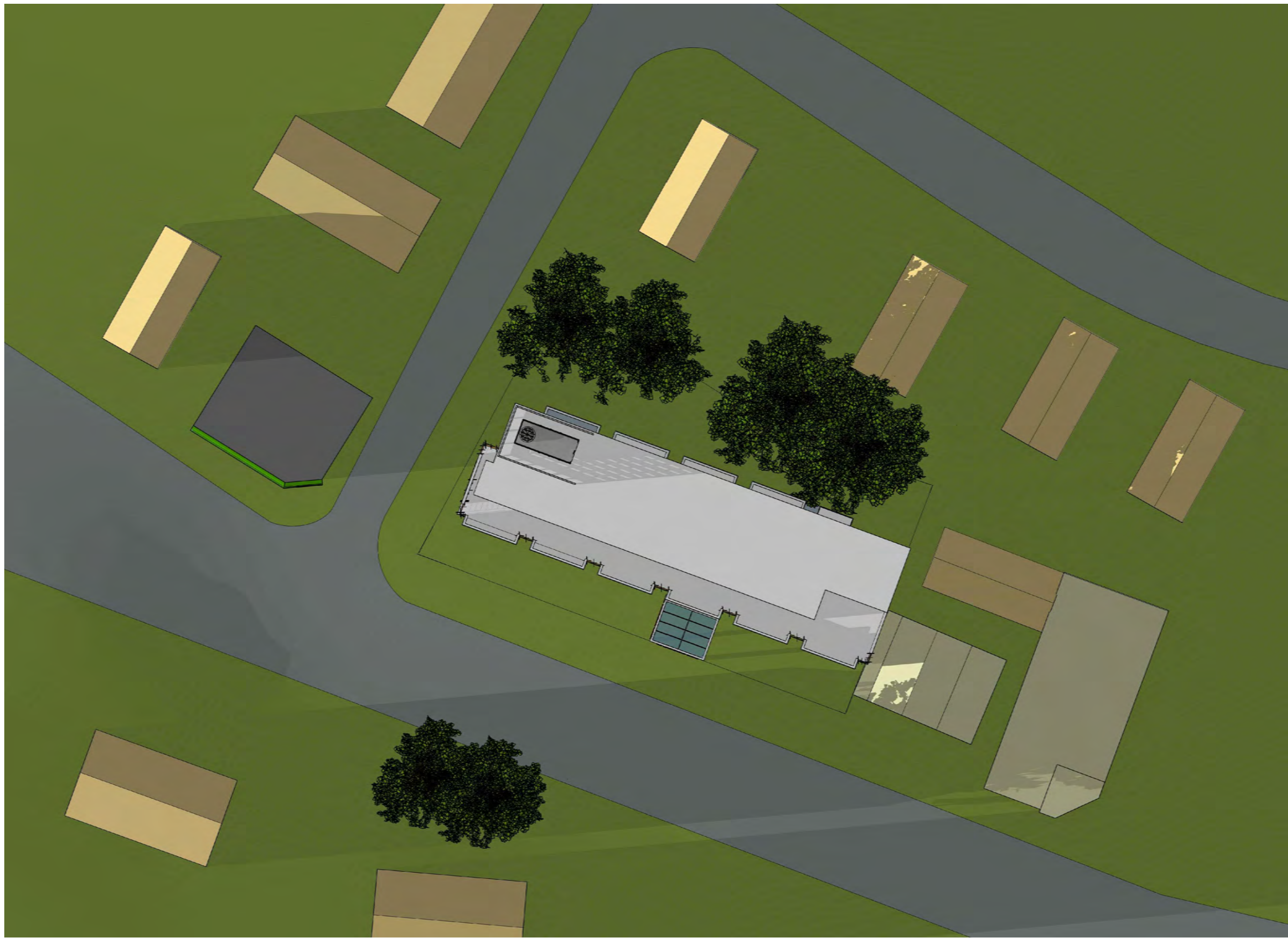
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PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SHADOW STUDY
PROPOSED BUILDING
AUTUMN EQUINOX

Project Number 2017.032
Drawing Scale N.T.S.
Drawn By GMe
Checked By GMe
Date Issued 12/12/19



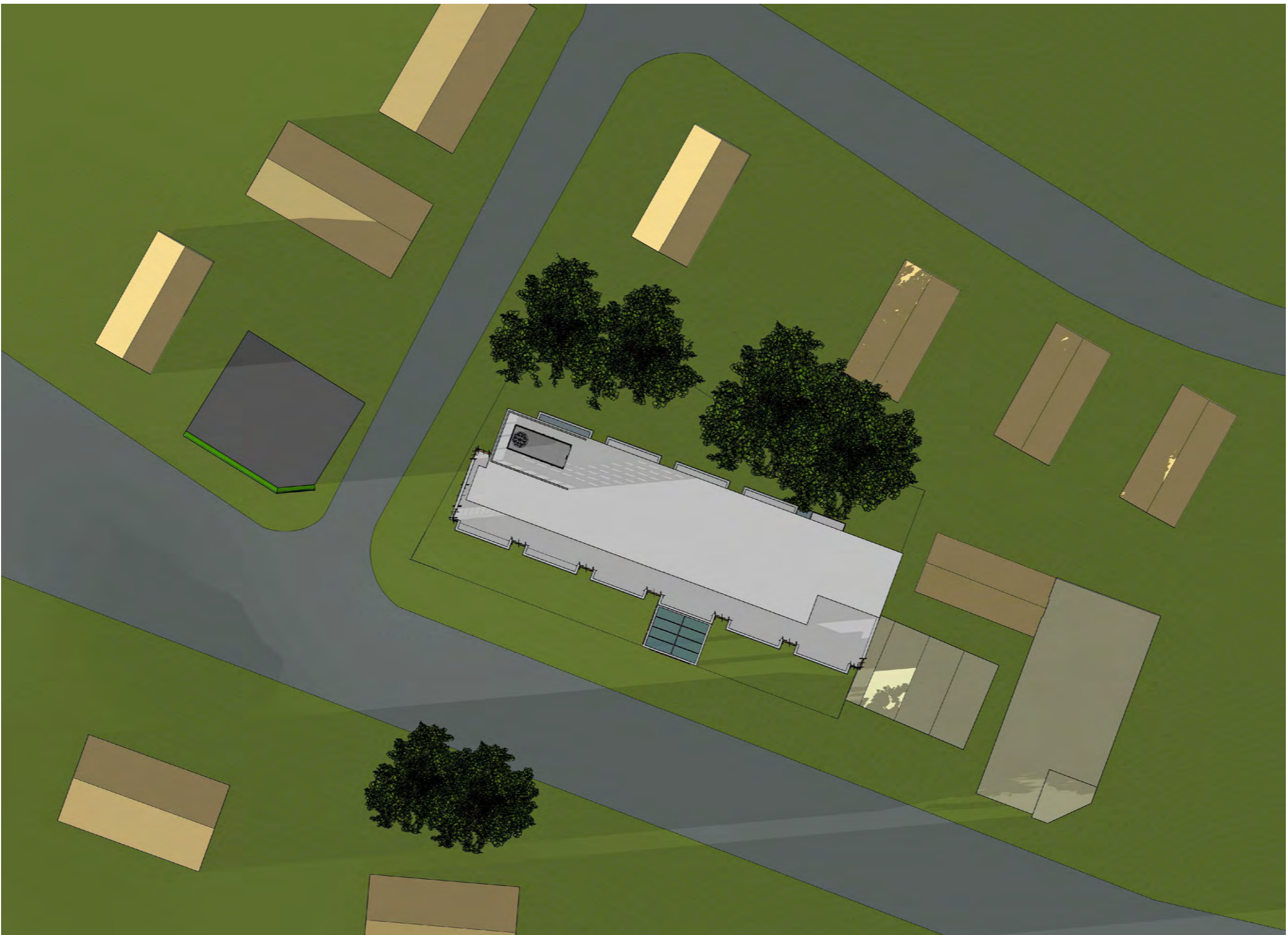
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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SHADOW STUDY
PROPOSED BUILDING
SPRING EQUINOX

Project Number
2017.032
Drawing Scale
N.T.S.
Drawn By
GMe
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GMe
Date Issued
12/12/19

A6.4

SPECIAL PERMIT - SITE PLAN REVIEW

1211 Massachusetts Avenue
Arlington, MA 02476

June 23, 2020



LINCOLN ARCHITECTS LLC
1 Mount Vernon Street, Suite 203
Winchester, MA 01890
781.721.7721

LOCUS PLAN



DRAWING LIST

ARCHITECTURAL

- COVER SHEET
- L1.1 EXISTING CONDITION DIAGRAM
- L1.2 LANDSCAPING PLAN
- 1 OF 1 PROPOSED SITE PLAN
- 1 OF 1 PROPOSED TURNING RADIUS PLAN
- ES.1 SITE PHOTOMETRIC PLAN
- A0.1 RENDERING IMAGE / VIEW FROM MASSACHUSETTS AVENUE
- A0.2 RENDERING IMAGE / BIRDS EYE VIEW FROM MASSACHUSETTS AVENUE
- A0.3 RENDERED IMAGE / SET IN PHOTO-VIEW FROM MASSACHUSETTS AVENUE I
- A0.4 RENDERED IMAGE / SET IN PHOTO-VIEW FROM MASSACHUSETTS AVENUE II
- A0.5 RENDERED IMAGE / SET IN PHOTO-VIEW FROM CLARK STREET
- A1.1 LOWER LEVEL/MAIN LEVEL FLOOR PLAN
- A1.2 SECOND & THIRD FLOOR PLAN/FOURTH FLOOR PLAN
- A3.1 ROOF PLAM / BUILDING SECTION
- A4.1 BUILDING ELEVATIONS
- A4.2 BUILDING ELEVATIONS
- A5.1 EXISTING BUILDING - SHADOW STYDY/SUMMER SOLSTICE
- A5.2 EXISTING BUILDING - SHADOW STYDY/WINTER SOLSTICE
- A5.3 EXISTING BUILDING - SHADOW STYDY/AUTUMN EQUINOX
- A5.4 EXISTING BUILDING - SHADOW STYDY/SPRING EQUINOX
- A6.1 PROPOSED BUILDING - SHADOW STYDY/SUMMER SOLSTICE
- A6.2 PROPOSED BUILDING - SHADOW STYDY/WINTER SOLSTICE
- A6.3 PROPOSED BUILDING - SHADOW STYDY/AUTUMN EQUINOX
- A6.4 PROPOSED BUILDING - SHADOW STYDY/SPRING EQUINOX



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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

EXISTING CONDITRIONS

Project Number
2017.032
Drawing Scale
1" = 20'
Drawn By
GMc
Checked By
GMc
Date Issued
06/23/20

L1.1

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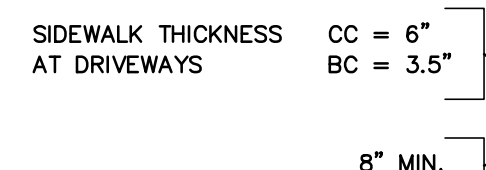
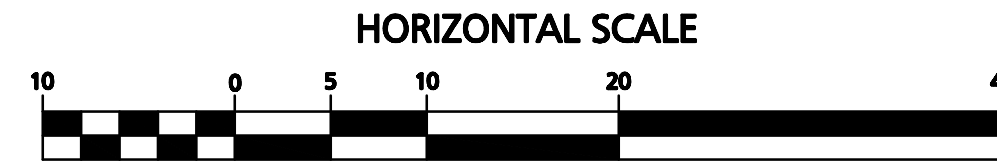
PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

LANDSCAPE PLAN

Project Number
2017.032
Drawing Scale
3/32"=1'-0"
Drawn By
GMc
Checked By
GMc
Date Issued
06/23/20

L1.2





NOT TO SCALE

GENERAL NOTES:

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITS AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION. THE APPROPRIATE PERMITS AUTHORITY AND "DIGSAFE" SHALL BE NOTIFIED IN WRITING. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL CONTROL POINTS AND BENCHMARKS NECESSARY FOR THE WORK.
3. THE CONTRACTOR SHALL EXCAVATE TEST PITS PRIOR TO COMMENCING WORK TO DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITY SERVICES.
4. ALL PROPOSED WORK SHALL BE PERFORMED IN FULL COMPLIANCE WITH THE TOWN OF ARLINGTON, AND IS SUBJECT TO QUALITY CONTROL TESTING AT THE DISCRETION OF THE ENGINEERING DEPT. AT THE EXPENSE OF THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE TOWN OF ARLINGTON D.P.W. PRIOR TO THE COMMENCEMENT OF ANY UTILITY WORK.
5. ANY CHANGE IN THE FIELD CONDITIONS SHOULD BE REPORTED TO THE ENGINEER TO ENSURE THAT ANY MODIFICATIONS TO THE ORIGINAL DESIGN CONFORM TO STANDARD SPECIFICATIONS AND THE DESIGN INTENTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROJECT'S NEEDS AND COMPLY WITH APPLICABLE STANDARDS AND REGULATIONS.
6. REFER TO ARCHITECTURAL PLANS FOR PROPOSED PARKING LAYOUT.
7. SIZE, LOCATION, AND DEPTH OF PROPOSED SUBSURFACE INFILTRATION FACILITY IS SHOWN FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR IS TO DIG A TEST PIT TO DETERMINE SUBSURFACE CONDITIONS AND SOIL TYPES. THE PROPOSED INFILTRATION FACILITY SHOWN ON THE SUBSURFACE INFILTRATION SHOWN ON THIS PLAN ASSUMES THE VOLUME OF A 10-YEAR STORM EVENT FOR THE PROPOSED ROOF AREA ONLY. THIS AREA IS BASED ON THE VOLUME PROVIDED BY CULTEC R-150XLH CHAMBERS AND ASSUMES SEPARATION TO THE ESTIMATED SEWAGE HIGH WATER TABLE. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS WILL NEED TO BE VERIFIED PRIOR TO FINAL DESIGN OF SYSTEM.

PREPARED BY:

PROJECT:

PREPARED FOR:

1211 Massachusetts Avenue
(Parcel ID: 58-11-1 & 57-4-1)
Arlington, Massachusetts

PROJECT #: 20-59805	DATE: June 18, 2020
SCALE: AS NOTED	DWG FILE NAME: 20-59805.dwg
DESIGN BY: Eric Bradanese, P.E.	CHECKED BY: Richard A. Salvo, P.E.


Professional Engineer for
Engineering Alliance, Inc.

Lincoln Architects LLC
1 Mount Vernon Street, Suite 203
Winchester, Massachusetts 01890

DWG. NO.	DRAWING TITLE:
----------	----------------

Grading Plan

1 of 1


 PREPARED BY:
Engineering Alliance, Inc.
 Civil Engineering & Land Planning Consultants
 1950 Lafayette Road
 Portsmouth, NH 03801
 Tel: (603) 610-7100
 Fax: (603) 610-7101

194 Central Street
Saugus, MA 01906
Tel: (781) 231-1349
Fax: (781) 417-0020

1950 Lafayette Road
Portsmouth, NH 03801
Tel: (603) 610-7100
Fax: (603) 610-7101

DATE: June 18, 2020

DWG FILE NAME: 20-59805.dwg

CHECKED BY: Richard A. Salvo, P.E.

SCALE: AS NOTED

Professional Engineer for
Engineering Alliance, Inc.

1 of 1

DESCRIPTION OF REVISION

DATE _____

Fax: (781) 417-0020

CHECKED BY: Richard A. Salvo, P.E.

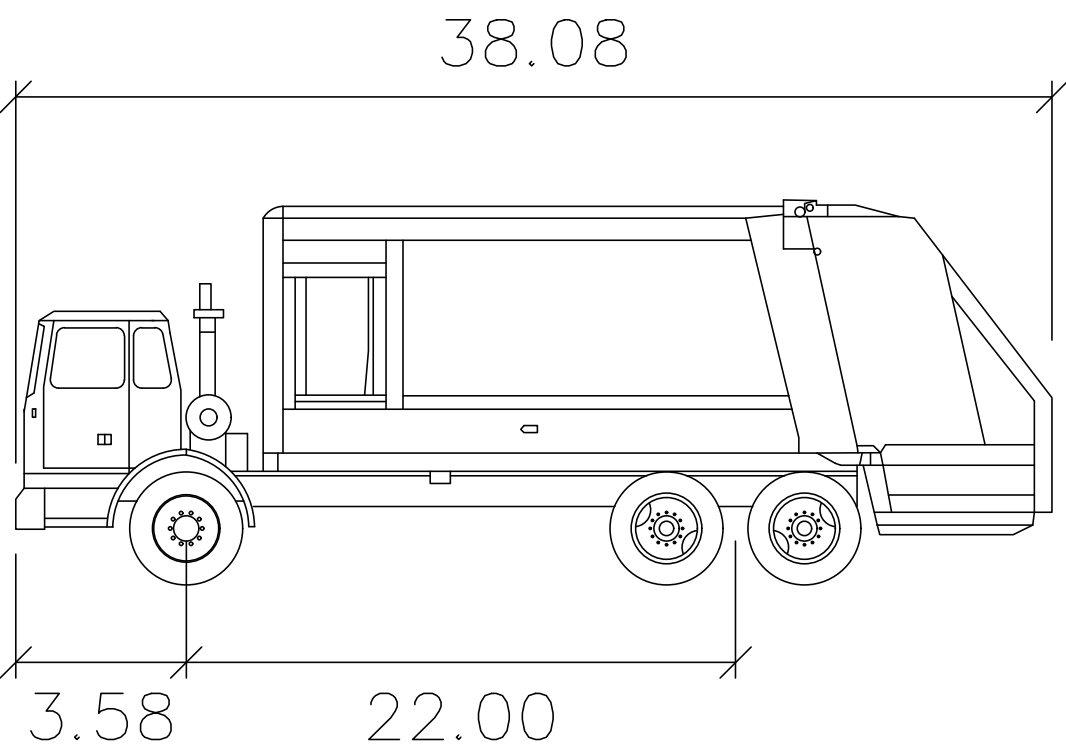
DESIGN BY: Eric Bradanese, P.E.

Professional Engineer for
Engineering Alliance, Inc.



LEGEND - GRADING PLAN	
PROPERTY LINE	---
PROPOSED CURB	==
PROPOSED BUILDING	▬
PROPOSED BUILDING OVERHANG	- - - -
PROPOSED SPOT SHOT	100.50 X
PROPOSED FLOW ARROW	⇒
PROPOSED BIT. CONC.
PROPOSED LANDSCAPING
PROPOSED CEM. CONC.
PROPOSED PERV. PAVER
PROPOSED WALL	▬

- GENERAL NOTES:
1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.
 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL CONTROL POINTS AND BENCHMARKS NECESSARY FOR THE WORK.
 3. THE CONTRACTOR SHALL EXCAVATE TEST PITS PRIOR TO COMMENCING WORK TO TO DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITY SERVICES.
 4. ALL PROPOSED WORK SHALL BE PERFORMED IN FULL COMPLIANCE WITH THE TOWN OF ARLINGTON, AND IS SUBJECT TO QUALITY CONTROL TESTING AT THE DISCRETION OF THE ENGINEERING DEPT. AT THE EXPENSE OF THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE TOWN OF ARLINGTON D.P.W. PRIOR TO THE COMMENCEMENT OF ANY UTILITY WORK.
 5. ANY CHANGE IN THE FIELD CONDITIONS SHOULD BE REPORTED TO THE ENGINEER TO ENSURE THAT ANY MODIFICATIONS TO THE ORIGINAL DESIGN CONFORM TO STANDARD ENGINEERING AND CONSTRUCTION PRACTICES AND ADEQUATE TO SERVE THE PROJECT'S NEEDS AND COMPLY WITH APPLICABLE STANDARDS AND REGULATIONS.
 6. REFER TO ARCHITECTURAL PLANS FOR PROPOSED PARKING LAYOUT.
 7. SIZE, LOCATION, AND DEPTH OF PROPOSED SUBSURFACE INFILTRATION FACILITY IS SHOWN FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR IS TO DIG A TEST PIT TO DETERMINE SUBSURFACE CONDITIONS PRIOR TO CONSTRUCTION. THE AREA DESIGNATED FOR SUBSURFACE INFILTRATION SHOWN ON THIS PLAN ASSUMES THE VOLUME OF A 10-YEAR STORM EVENT FOR THE PROPOSED ROOF AREA ONLY. THIS AREA IS BASED ON THE VOLUME PROVIDED BY CULTEC R-150XLHD CHAMBERS AND ASSUMES SEPARATION TO THE ESTIMATE SEASONAL HIGH WATER TABLE IS SUFFICIENT. ALL CONDITIONS WILL NEED TO BE VERIFIED PRIOR TO FINAL DESIGN OF SYSTEM.



Rear-Load Garbage Truck

feet

- Width : 8.00
- Track : 8.00
- Lock to Lock Time : 6.0
- Steering Angle : 27.4

PREPARED BY:

PROJECT:

Lincoln Architects LLC
1 Mount Vernon Street, Suite 203
Winchester, Massachusetts 01890

DWG. NO.
1 of 1

DATE: June 18, 2020

DWG FILE NAME: 20-59805.dwg

DRAWING TITLE:
AutoTURN: Trash Removal

PROJECT # 20-59805

SCALE: AS NOTED

1 of 1

DATE: June 18, 2020

DWG FILE NAME: 20-59805.dwg

AutoTURN: Trash Removal

DESIGN BY: Eric Bradanes, P.E.

Professional Engineer for
Engineering Alliance, Inc.

Checked By: Richard A. Salvo, P.E.

Professional Engineer for
Engineering Alliance, Inc.

Engineering Alliance, Inc.
Civil Engineering & Land Planning Consultants
194 Central Street
Saugus, MA 01906
Tel: (603) 231-1349
Fax: (603) 417-0020

DESCRIPTION OF REVISION



Consultants



PHONE: (508) 757-7793 • FAX: (508) 753-2309
REFERENCE NO.: 20107

Revisions

SITE PLAN LIGHTING- PHOTOMETRIC PLAN

Scale: $\frac{3}{32}'' = 1'-0''$

SITE LIGHTING PHOTOMETRIC PLAN

Drawing Scale
3/32"=1'-0"

Checked By
GMC

Date Issued
06/23/20

ES.1



CURRENT SUBMISSION



PREVIOUS SUBMISSION

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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

RENDERING
STREET VIEW

Project Number
2017.032

Drawing Scale
3/32"=1'-0"

Drawn By
GMc

Checked By
GMc

Date Issued
06/23/20

A0.1



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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

RENDERING BIRDS EYE VIEW

Project Number
2017.032

Drawing Scale
3/32"=1'-0"

Drawn By
GMC

Checked By
GMC

Date Issued
06/23/20

A0.2



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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

RENDERING
STREET VIEW #1

Project Number
2017.032

Drawing Scale
N.T.S.

Drawn By
GMc

Checked By
GMc

Date Issued
06/23/20

A0.3

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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

RENDERING
STREET VIEW #2

Project Number
2017.032

Drawing Scale
N.T.S

Drawn By
GMc

Checked By
GMc

Date Issued
06/23/20

A0.4





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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

RENDERING
STREET VIEW #3
CLARK ST

Project Number
2017.032

Drawing Scale
N.T.S

Drawn By
GMc

Checked By
GMc

Date Issued
06/23/20

A0.5

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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

LOWER LEVEL
FIRST FLOOR
FLOOR PLANS

Project Number
2017.032

Drawing Scale
3/32"=1'-0"

Drawn By
GMc

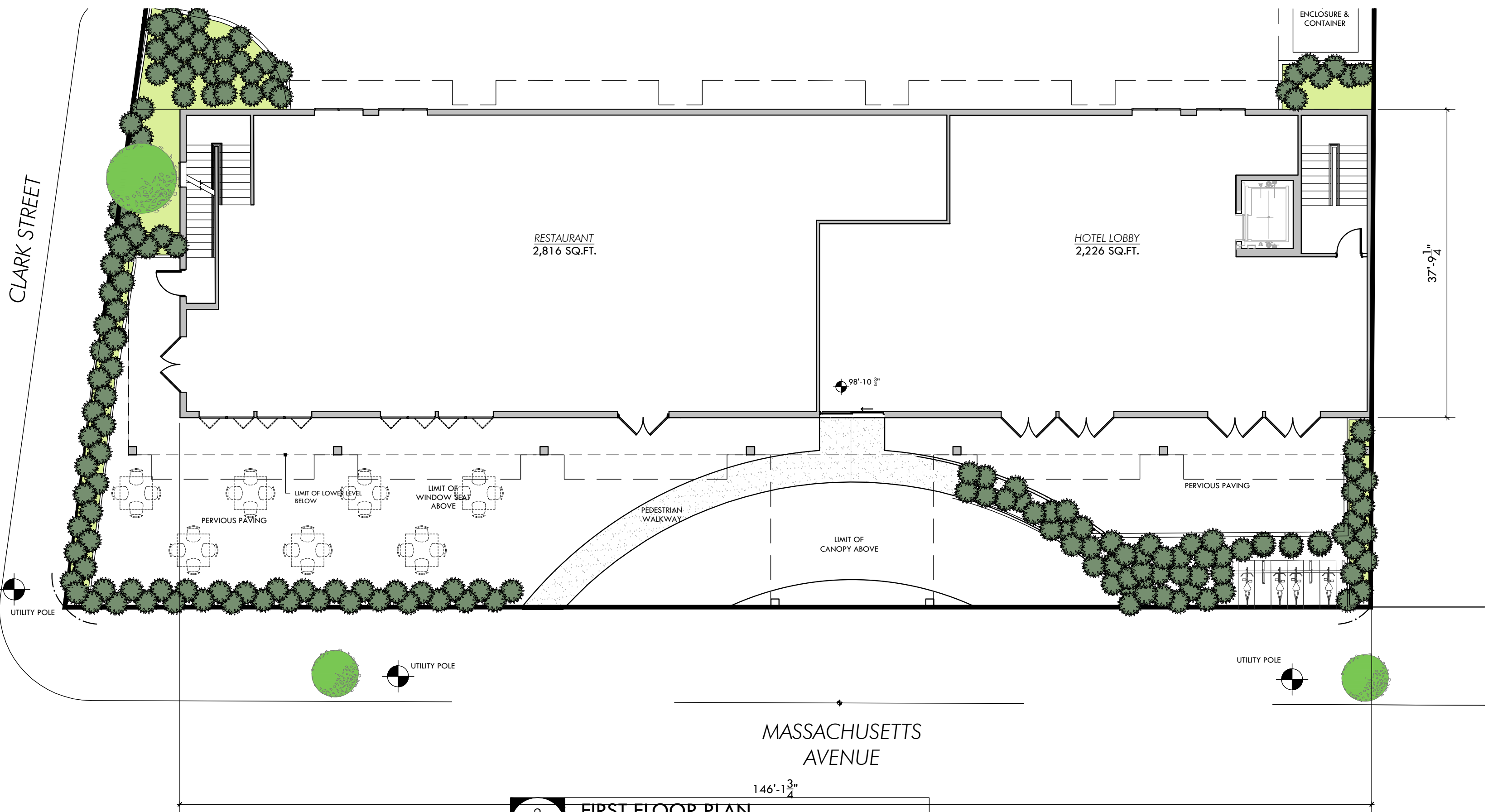
Checked By
GMc

Date Issued
06/23/20

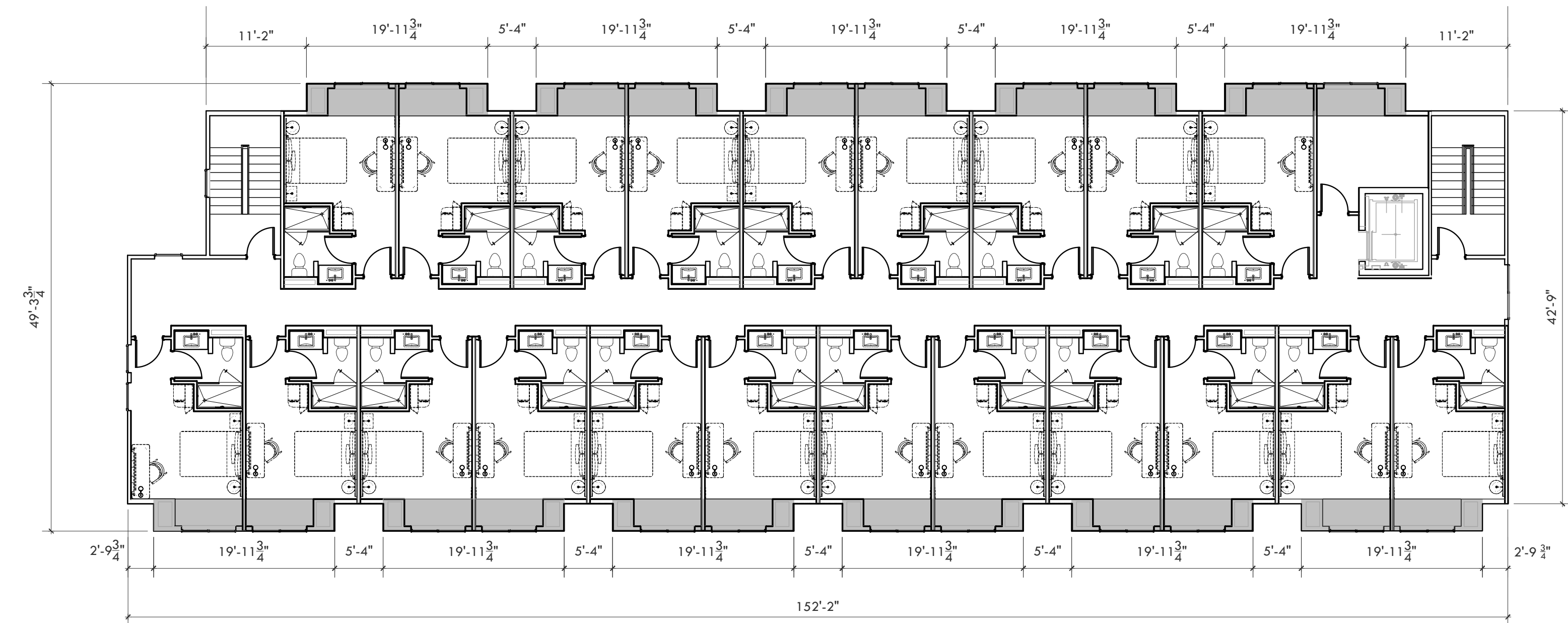
A1.1



1 LOWER LEVEL FLOOR PLAN
A1.1 SCALE: 3/32"=1'-0"



2 FIRST FLOOR PLAN
A1.1 SCALE: 3/32"=1'-0"

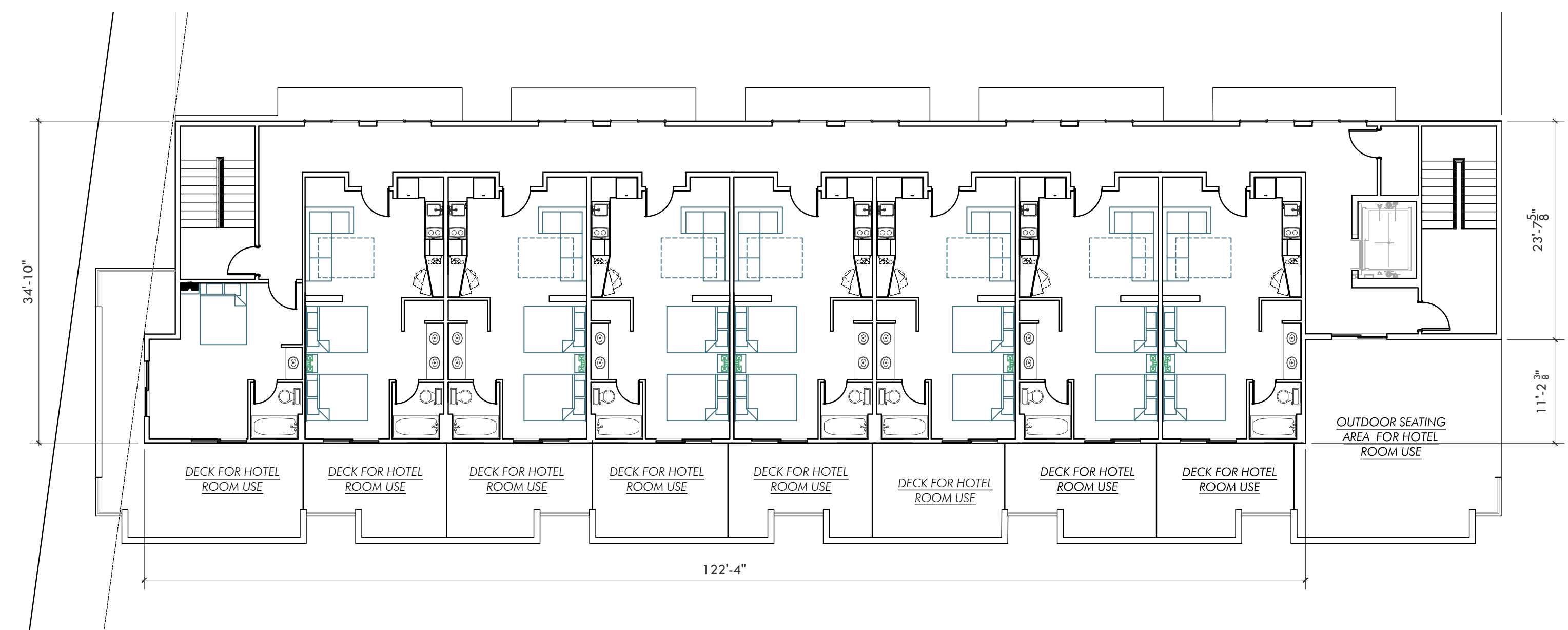


1

SECOND & THIRD FLOOR PLAN

A1.2

SCALE: 3/32"=1'-0"



2

FOURTH FLOOR PLAN

A1.2

SCALE: 3/32"=1'-0"

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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SECOND & THIRD FLOOR PLAN
FOURTH FLOOR PLAN

Project Number	2017.032
Drawing Scale	3/32"=1'-0"
Drawn By	GMc
Checked By	GMc
Date Issued	06/23/20

A1.2

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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

ROOF PLAN
BUILDING SECTION

Project Number
2017.032

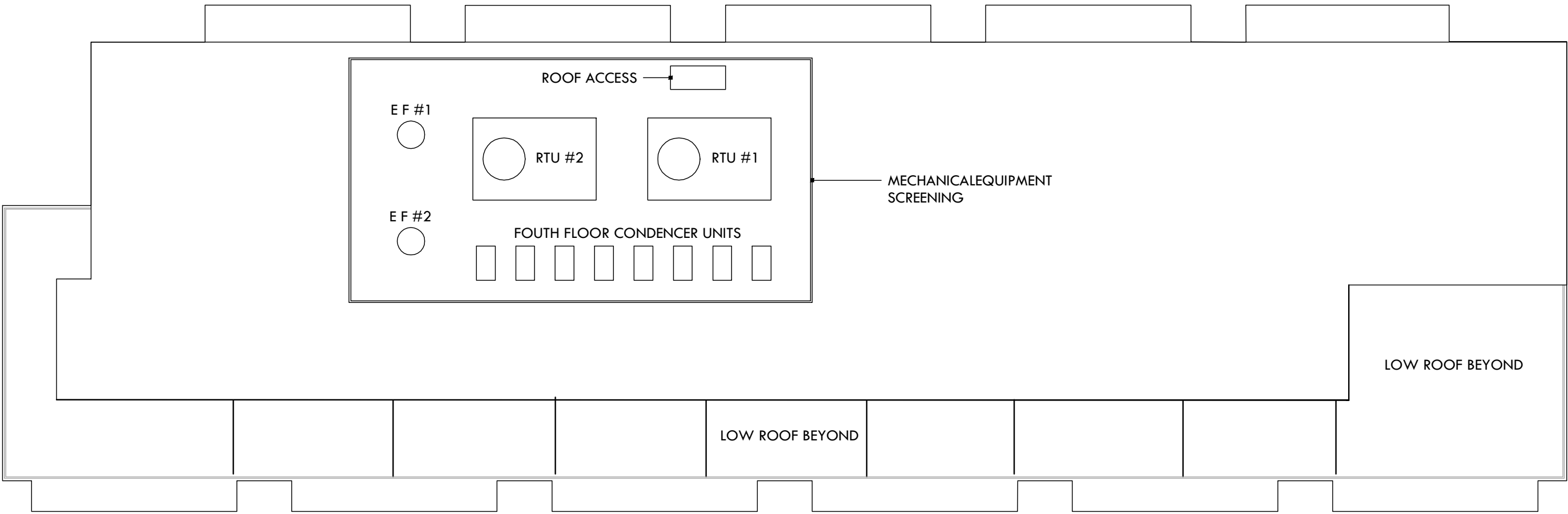
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Drawn By
GMc

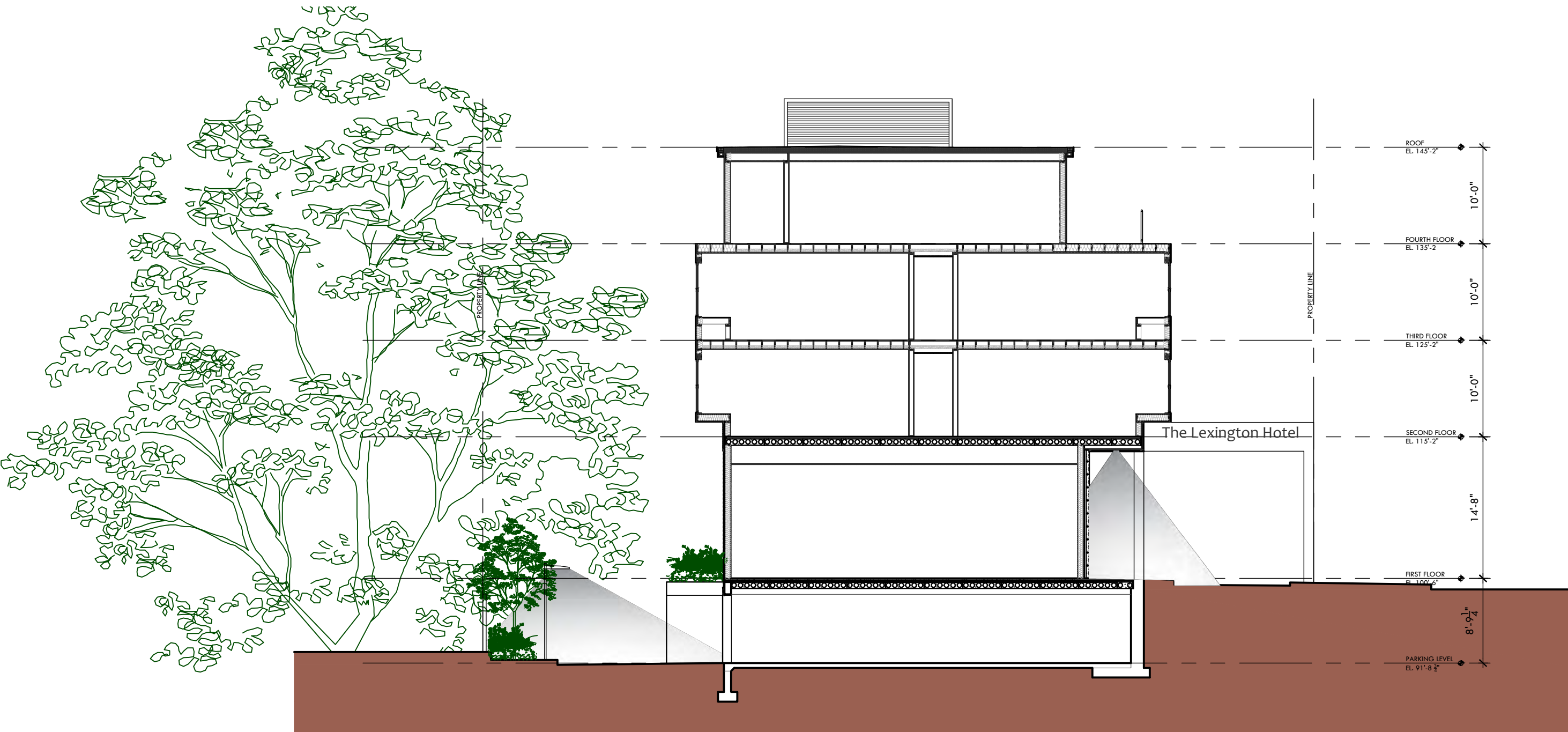
Checked By
GMc

Date Issued
06/23/20

A3.1



1	ROOF PLAN
A3.1	SCALE: 3/32"=1'-0"



2	BUILDING SECTION
A3.1	SCALE: 3/32"=1'-0"

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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

BUILDING ELEVATIONS

Project Number
2017.032

Drawing Scale
1/8"=1'-0"

Drawn By
GMc

Checked By
GMc

Date Issued
06/23/20

A4.1



1 BUILDING ELEVATIONS-FRONT
A4.1 SCALE: 1/8"=1'-0"



2 BUILDING ELEVATIONS- REAR
A4.1 SCALE: 1/8"=1'-0"



1	BUILDING ELEVATIONS-SIDE
A4.2	SCALE: 1/8"=1'-0"

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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

BUILDING ELEVATIONS

Project Number
2017.032

Drawing Scale
1/8"=1'-0"

Drawn By
GMc

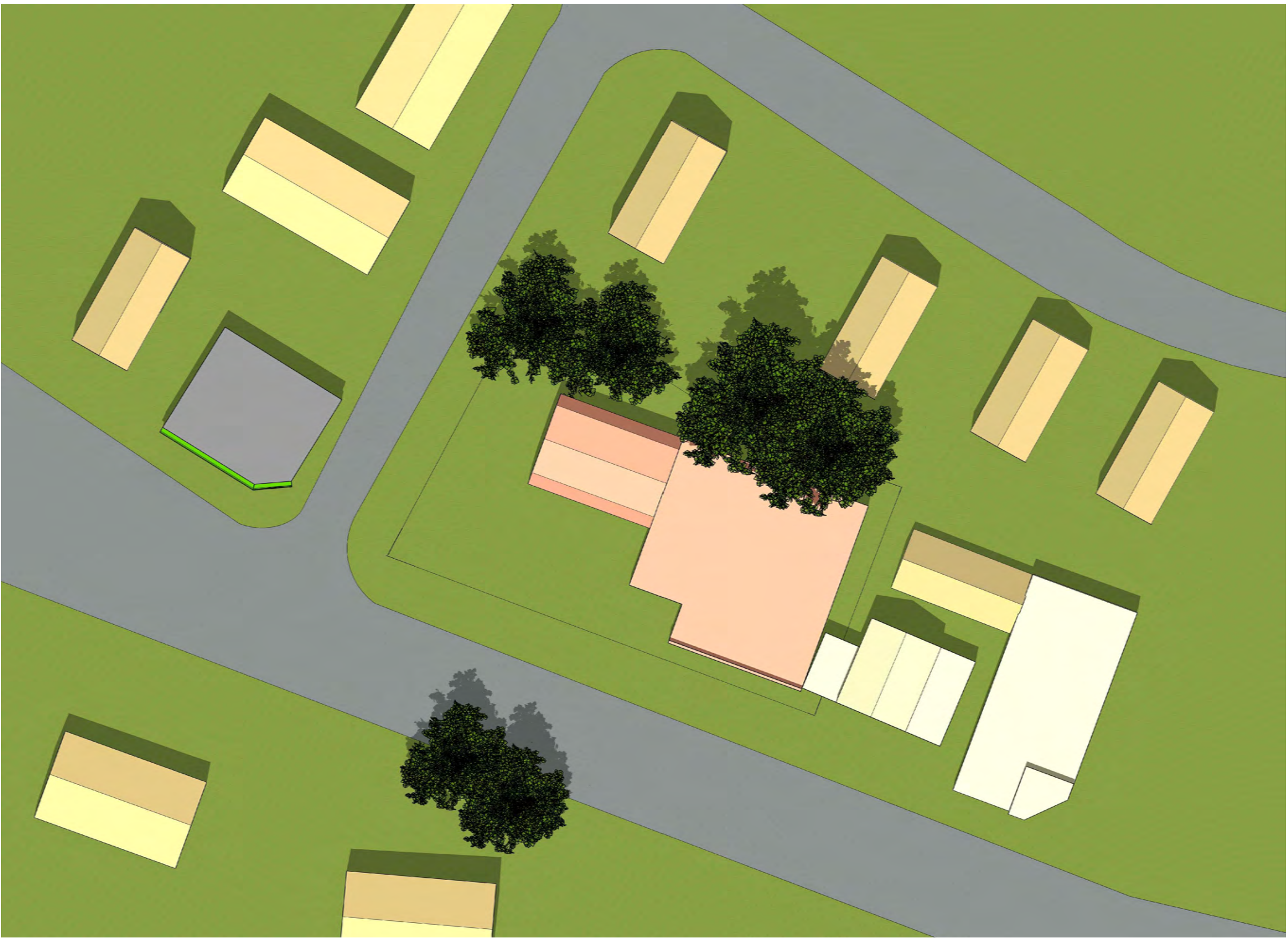
Checked By
GMc

Date Issued
06/23/20

A4.2



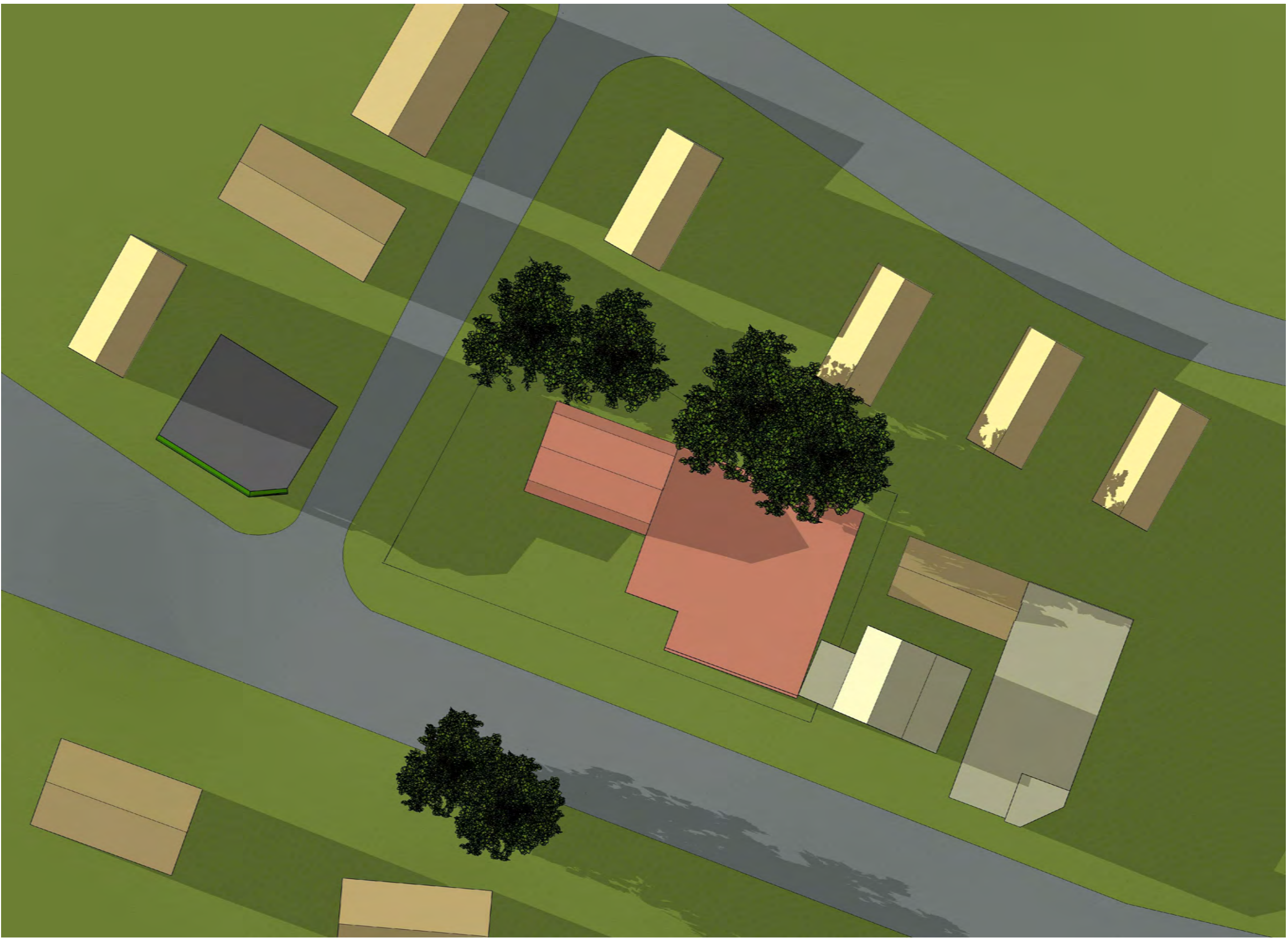
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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SHADOW STUDY
EXISTING CONDITIONS
SUMMER SOLSTICE

Project Number 2017.032
Drawing Scale N.T.S.
Drawn By GMe
Checked By GMe
Date Issued 12/12/19



9:00 AM



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PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SHADOW STUDY
EXISTING CONDITIONS
WINTER SOLSTICE

Project Number 2017.032
Drawing Scale N.T.S.
Drawn By GMe
Checked By GMe
Date Issued 12/12/19

A5.2



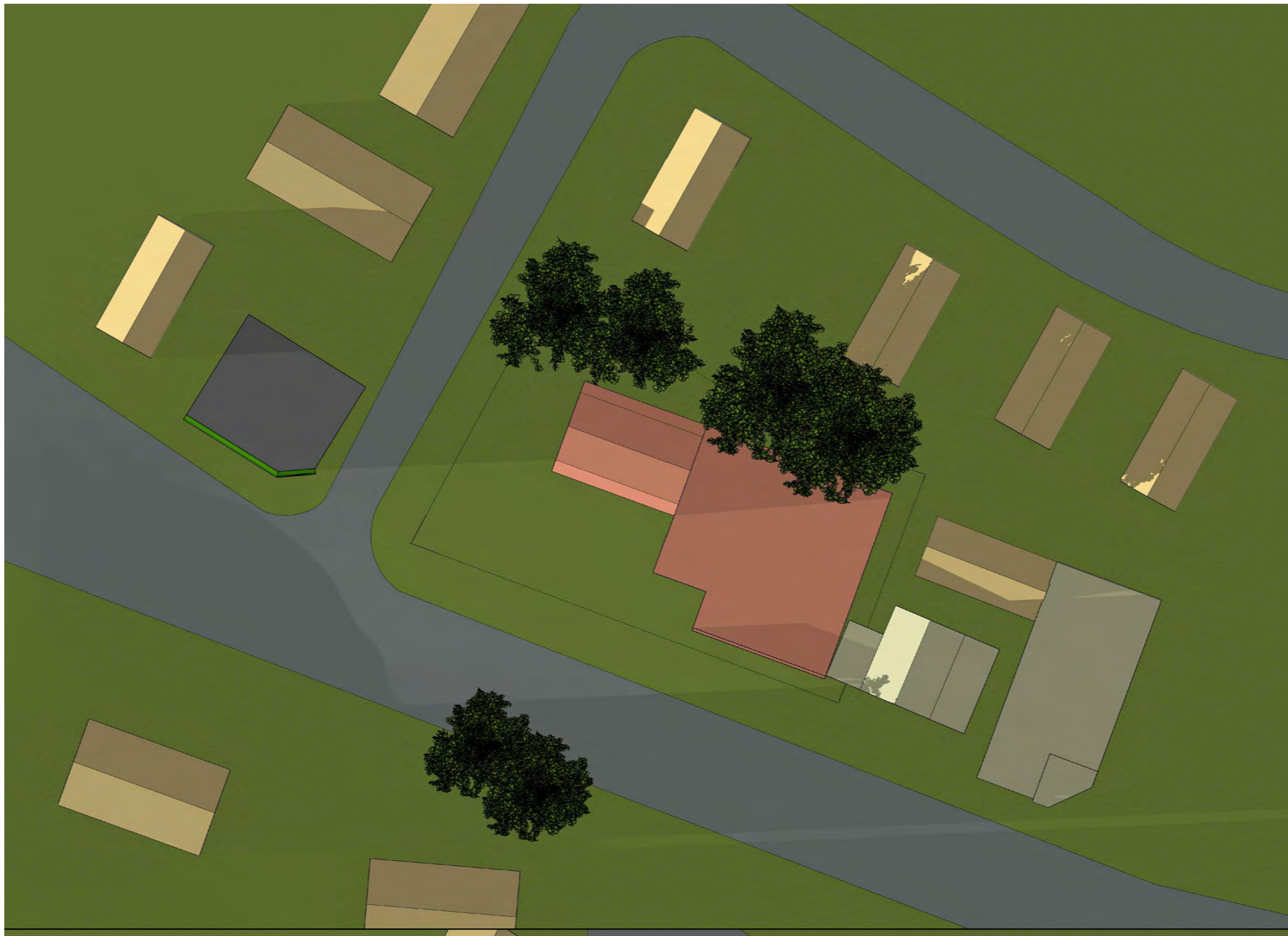
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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SHADOW STUDY
EXISTING CONDITIONS
AUTUMN EQUINOX

Project Number
2017.032
Drawing Scale
N.T.S.
Drawn By
GMe
Checked By
GMe
Date Issued
12/12/19

A5.3



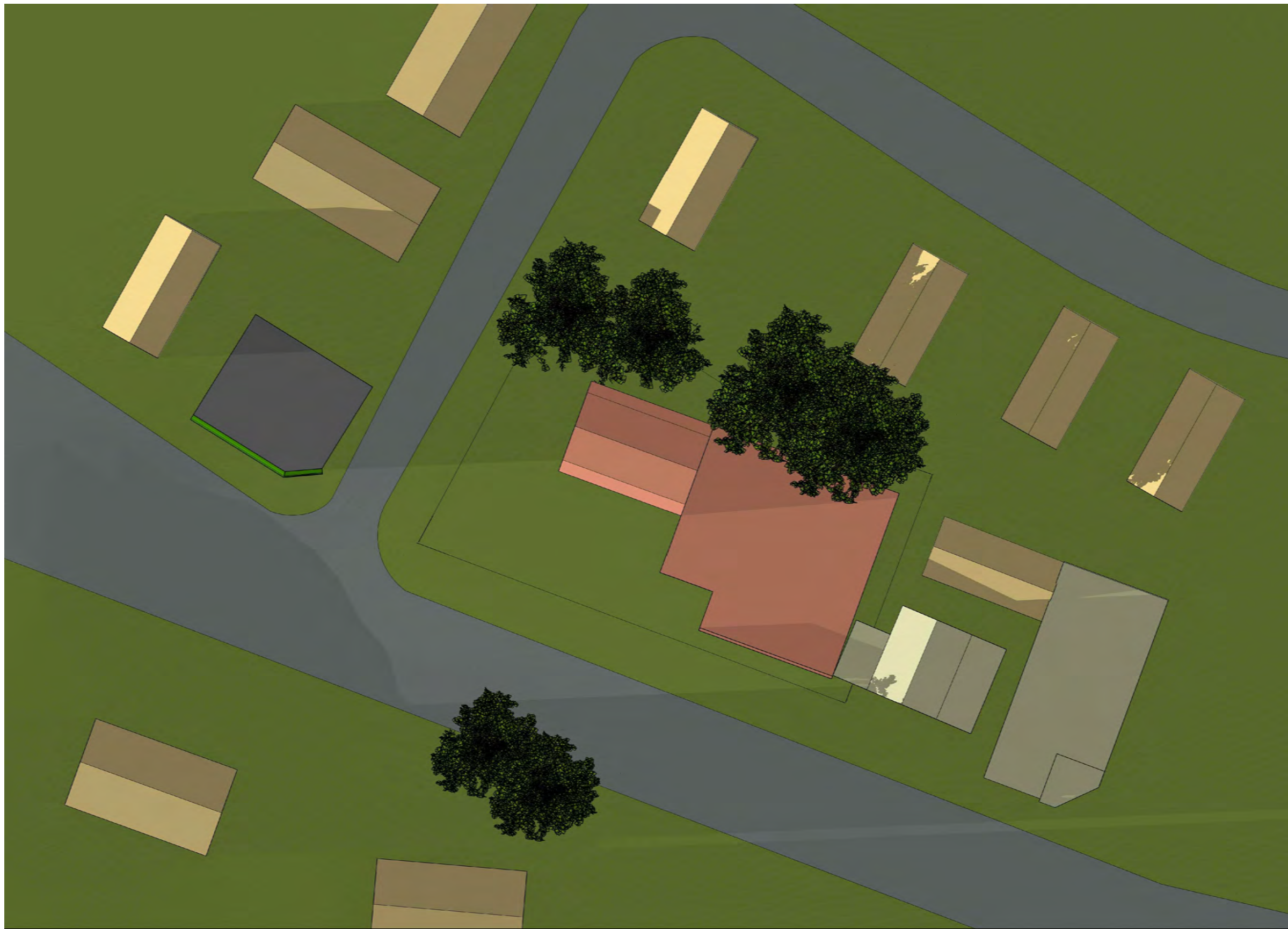
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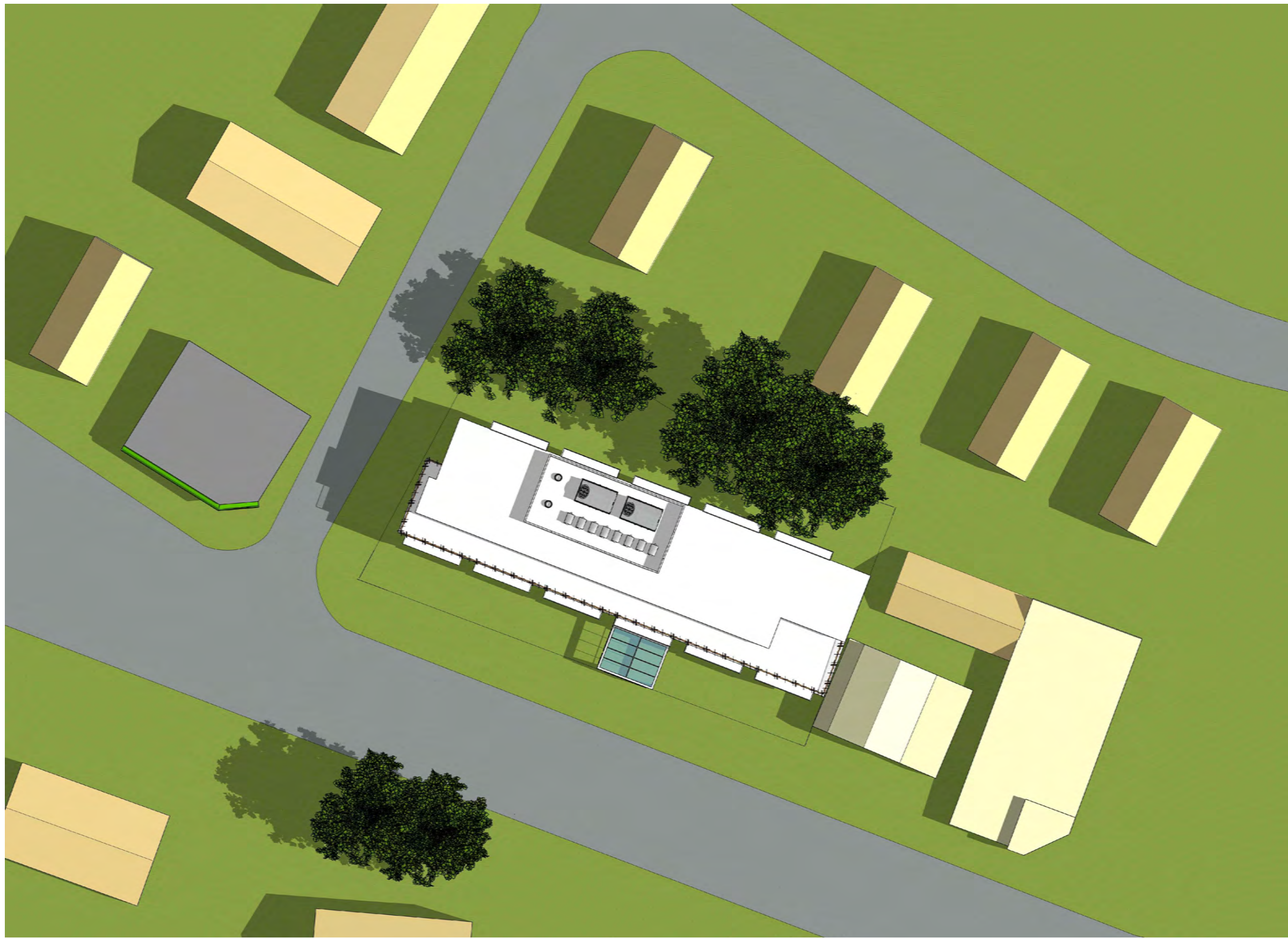
Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

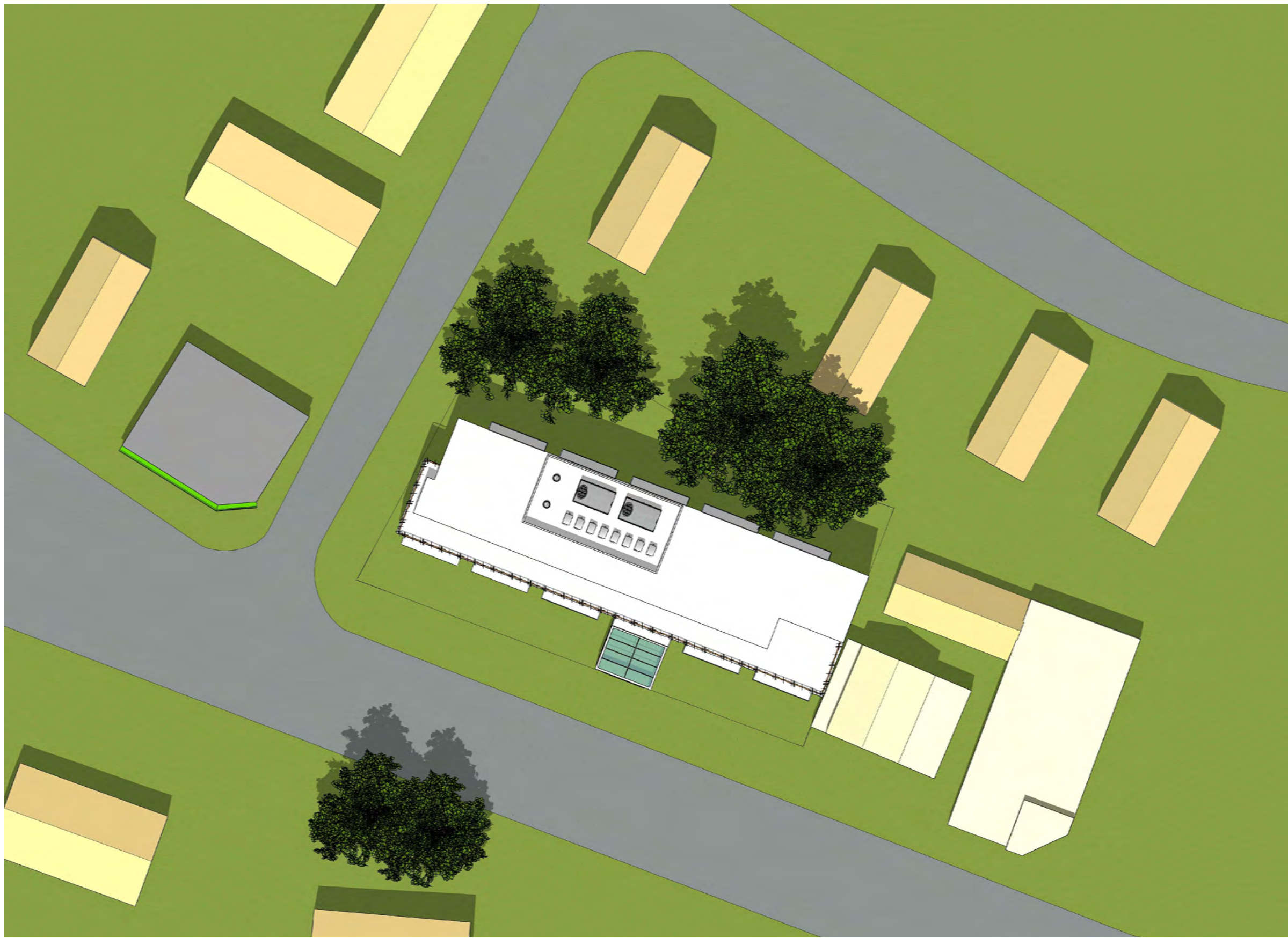
SHADOW STUDY
EXISTING CONDITIONS
SPRING EQUINOX

Project Number
2017.032
Drawing Scale
N.T.S.
Drawn By
GMe
Checked By
GMe
Date Issued
12/12/19

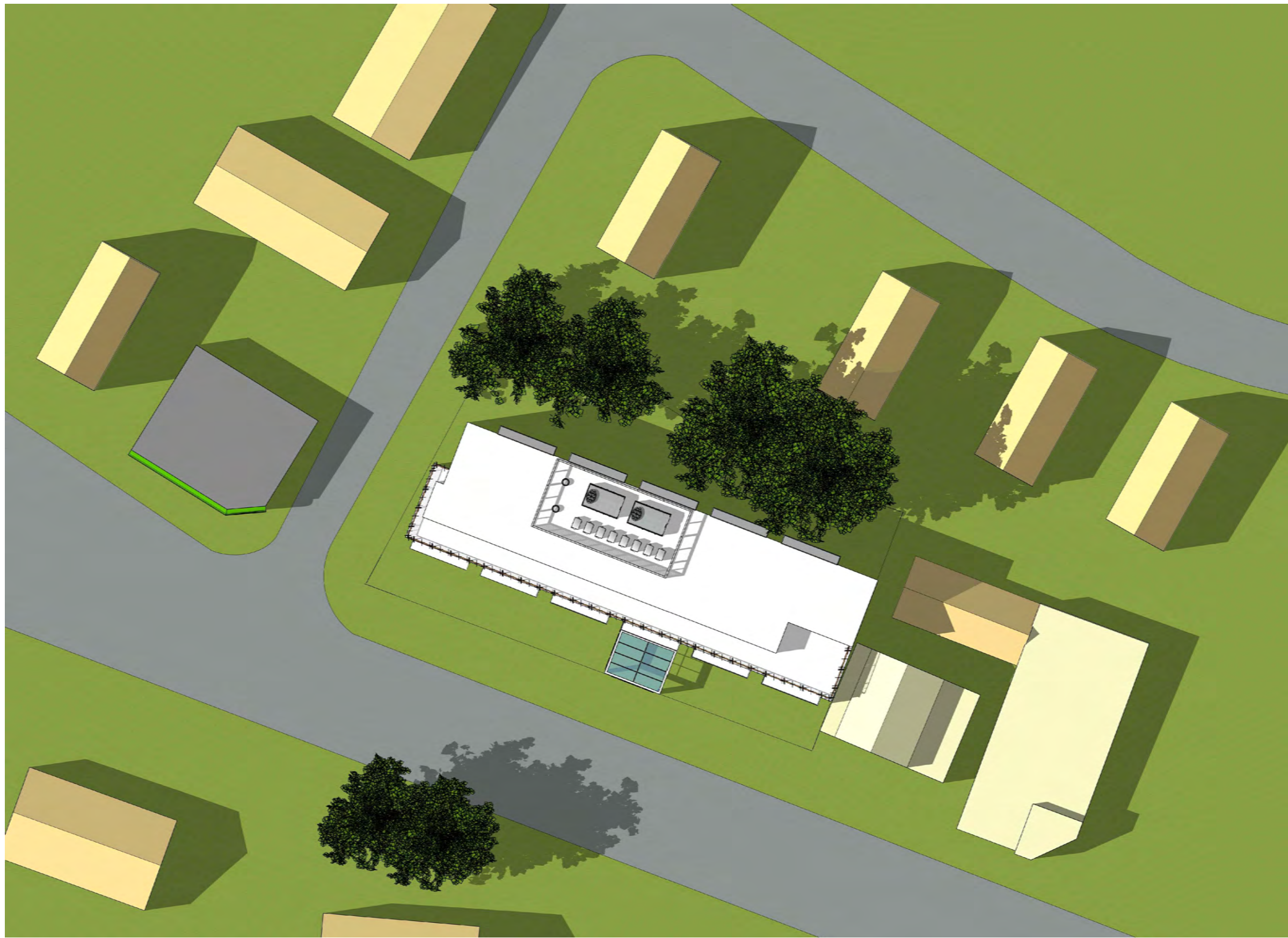
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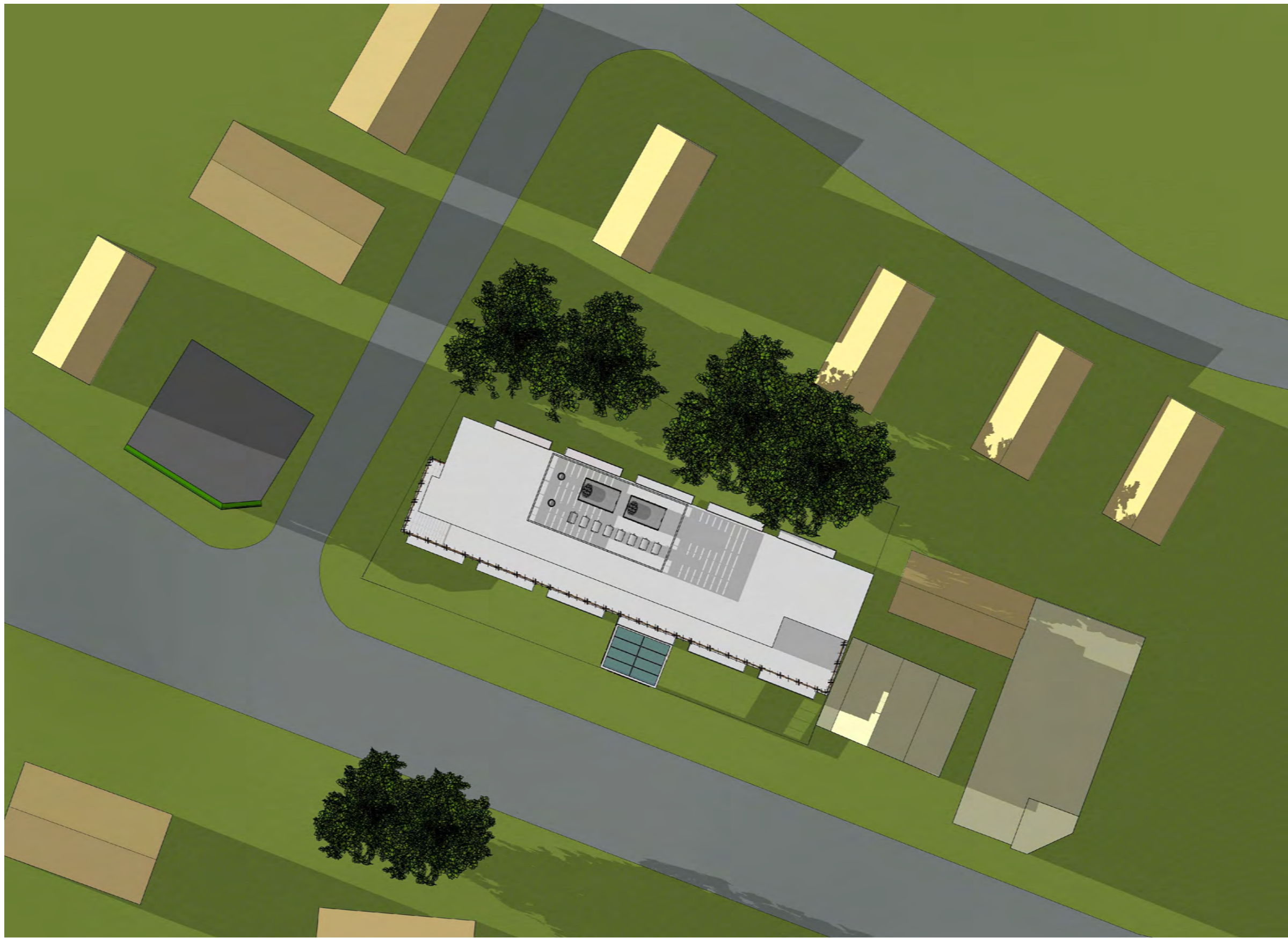
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6:00 PM

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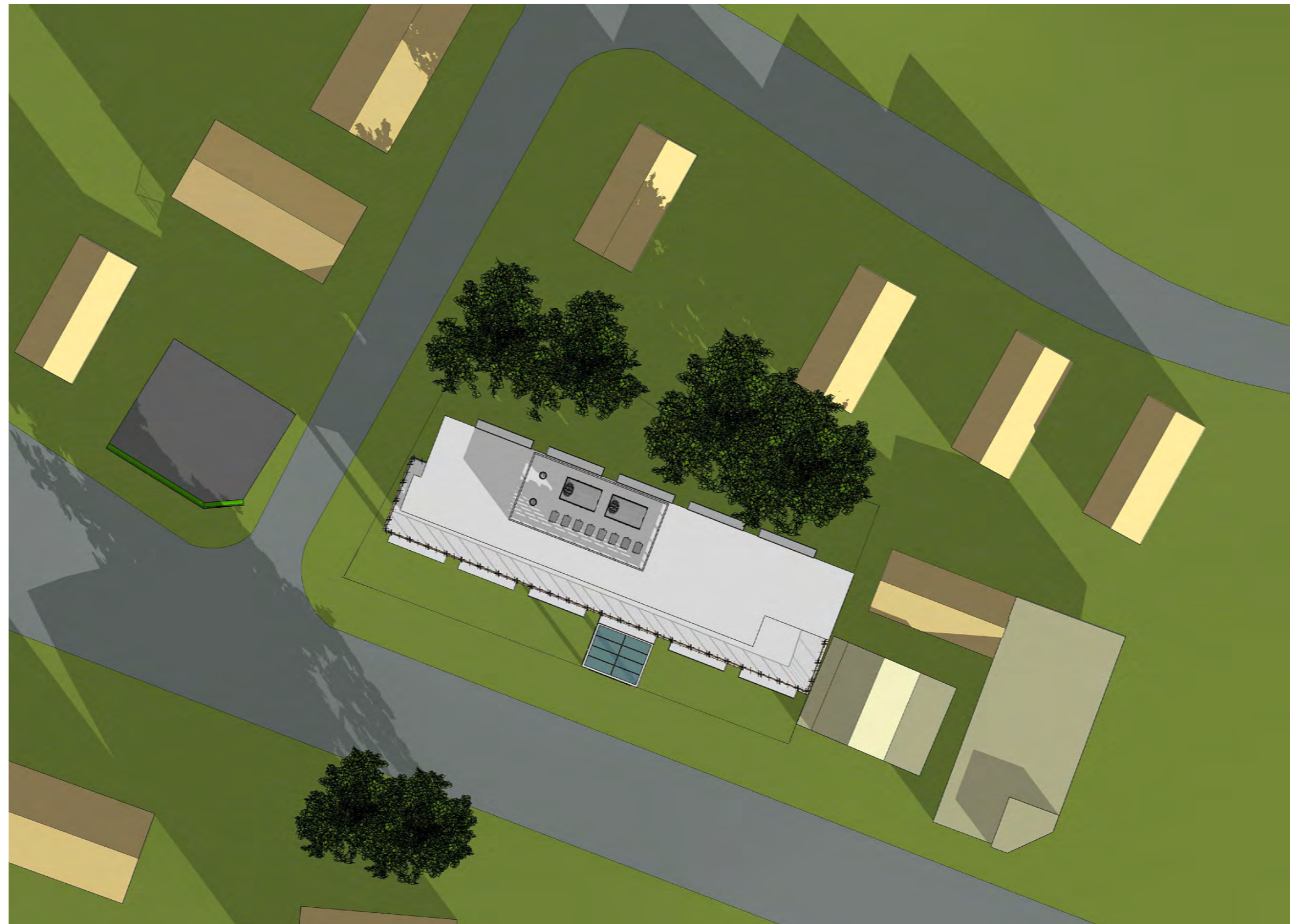
Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SHADOW STUDY
PROPOSED BUILDING
SUMMER SOLSTICE

Project Number
2017.032
Drawing Scale
N.T.S.
Drawn By
GMe
Checked By
GMe
Date Issued
06/23/20

A6.1



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6:00 PM

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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SHADOW STUDY
PROPOSED BUILDING
WINTER SOLSTICE

Project Number
2017.032

Drawing Scale
N.T.S.

Drawn By
GMc

Checked By
GMc

Date Issued
06/23/20

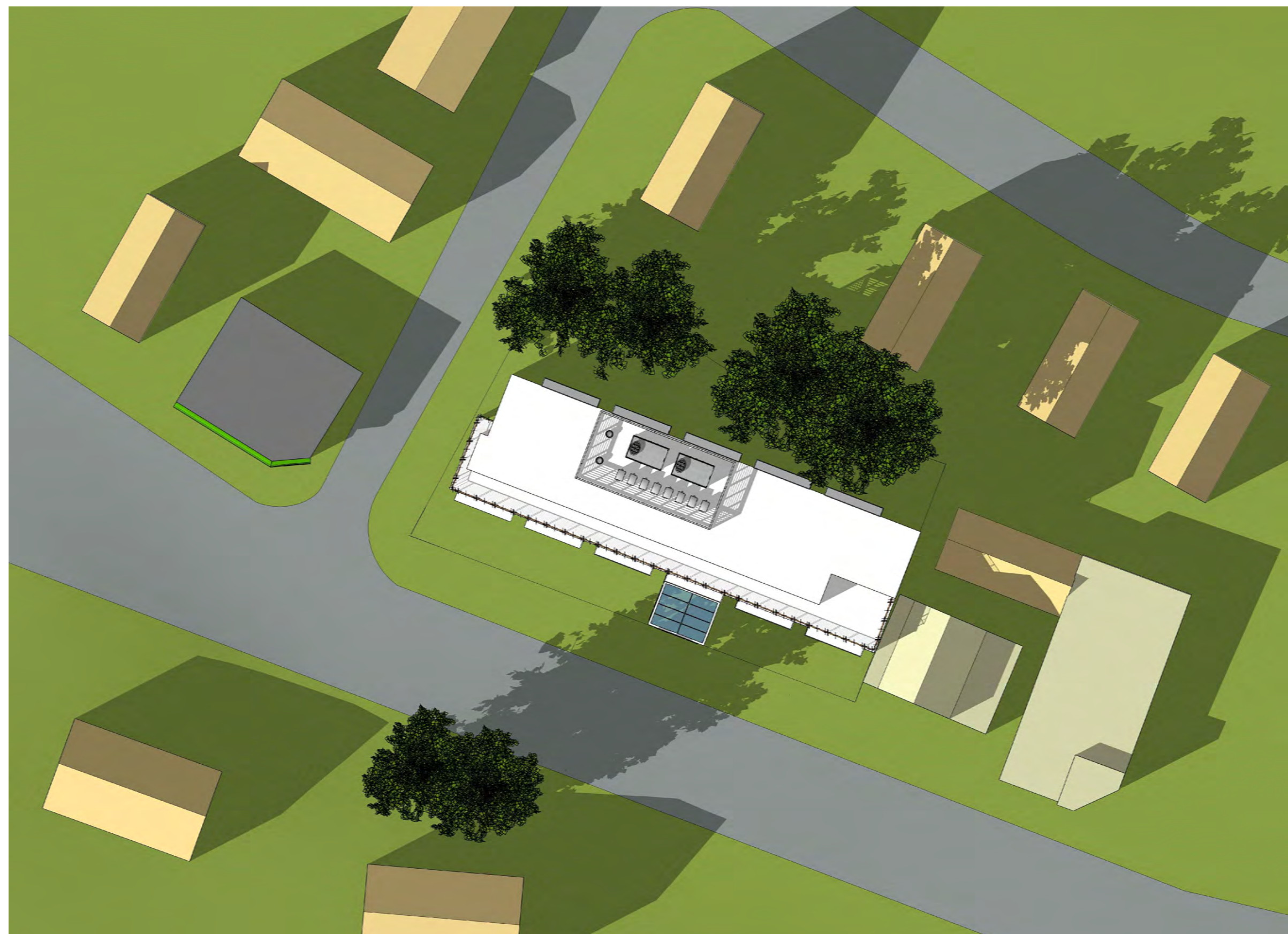
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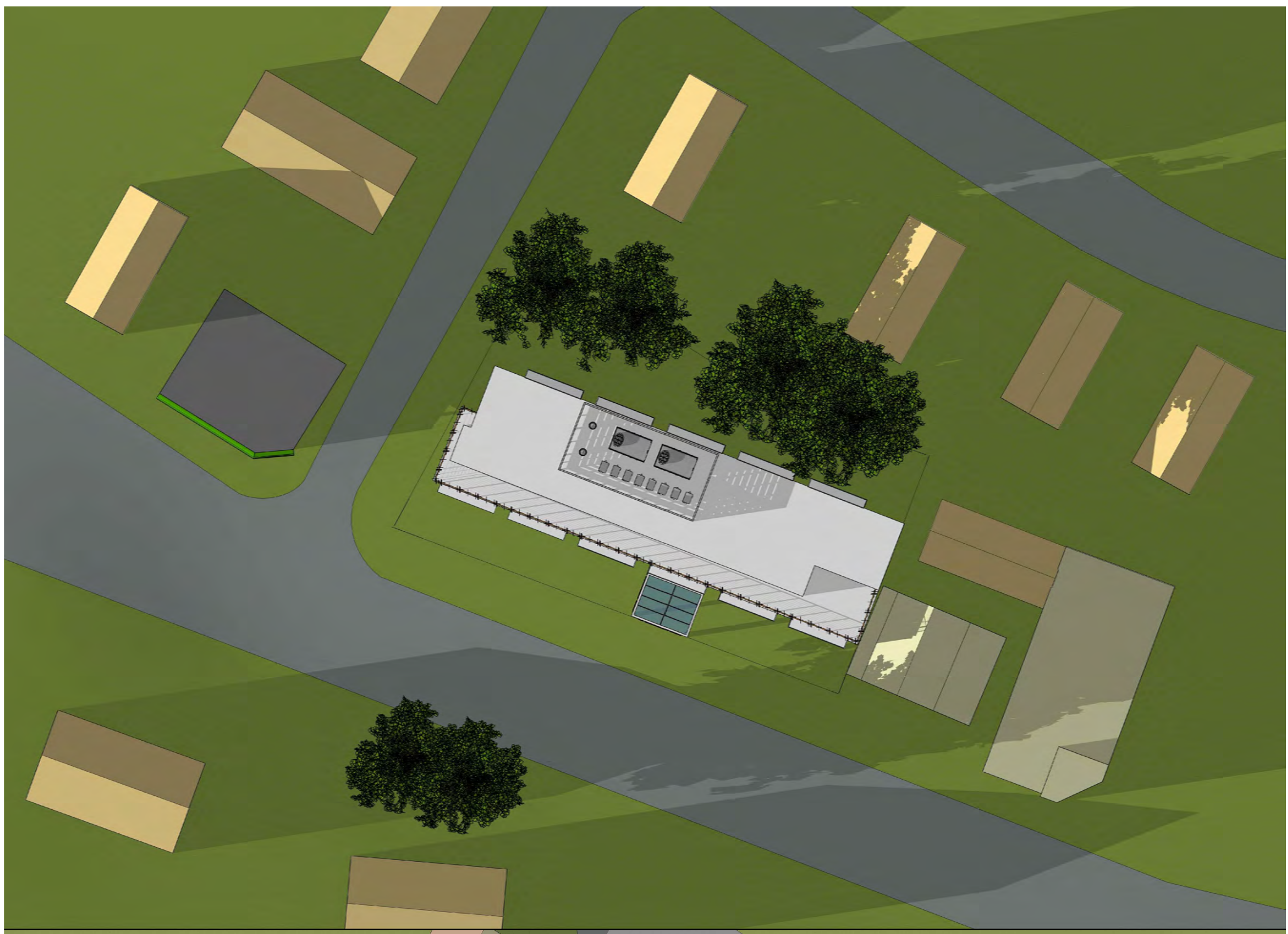
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3:00 PM



6:00 PM

Consultants

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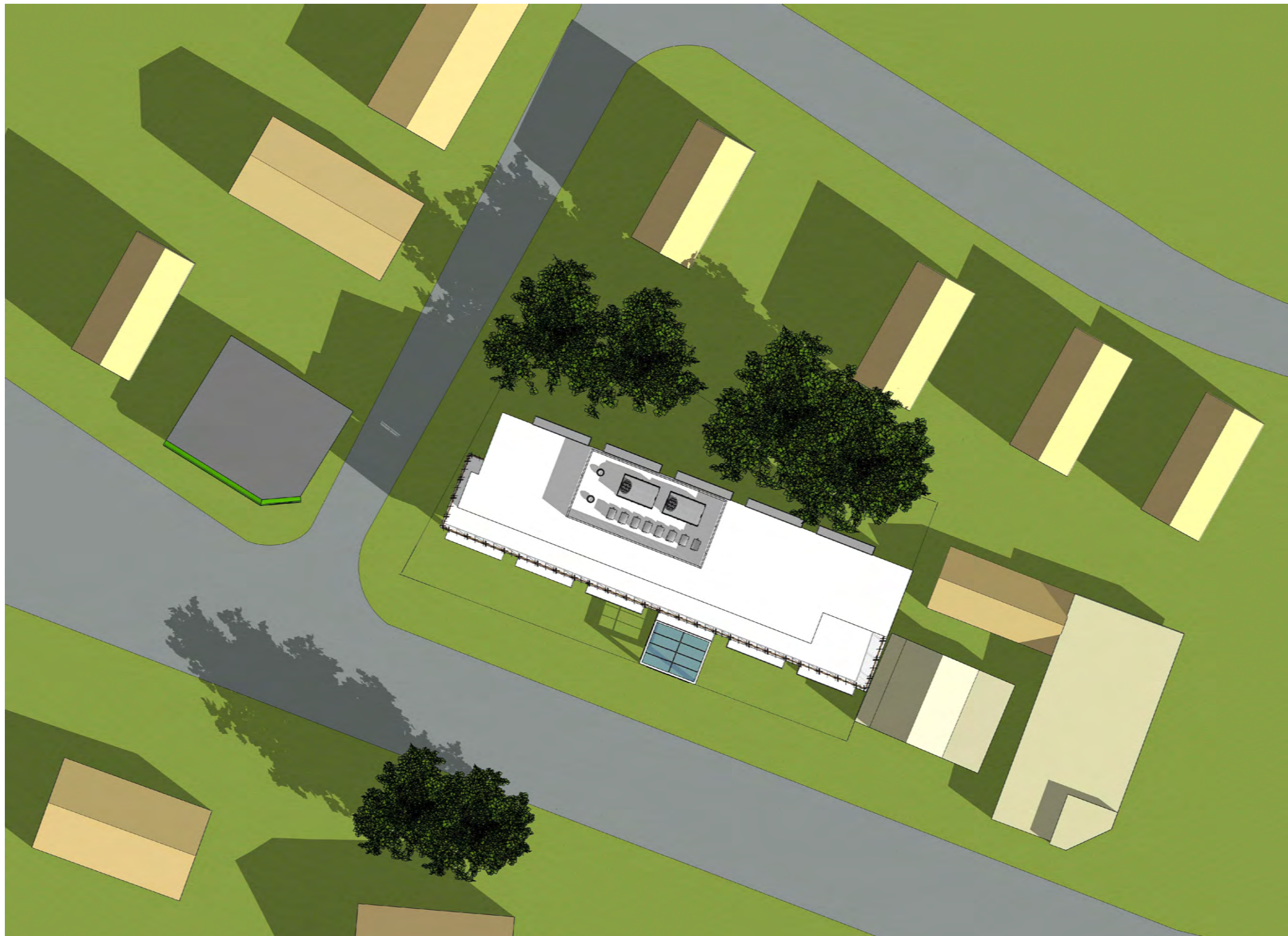
Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SHADOW STUDY
PROPOSED BUILDING
AUTUMN EQUINOX

Project Number
2017.032
Drawing Scale
N.T.S.
Drawn By
GMe
Checked By
GMe
Date Issued
06/23/20

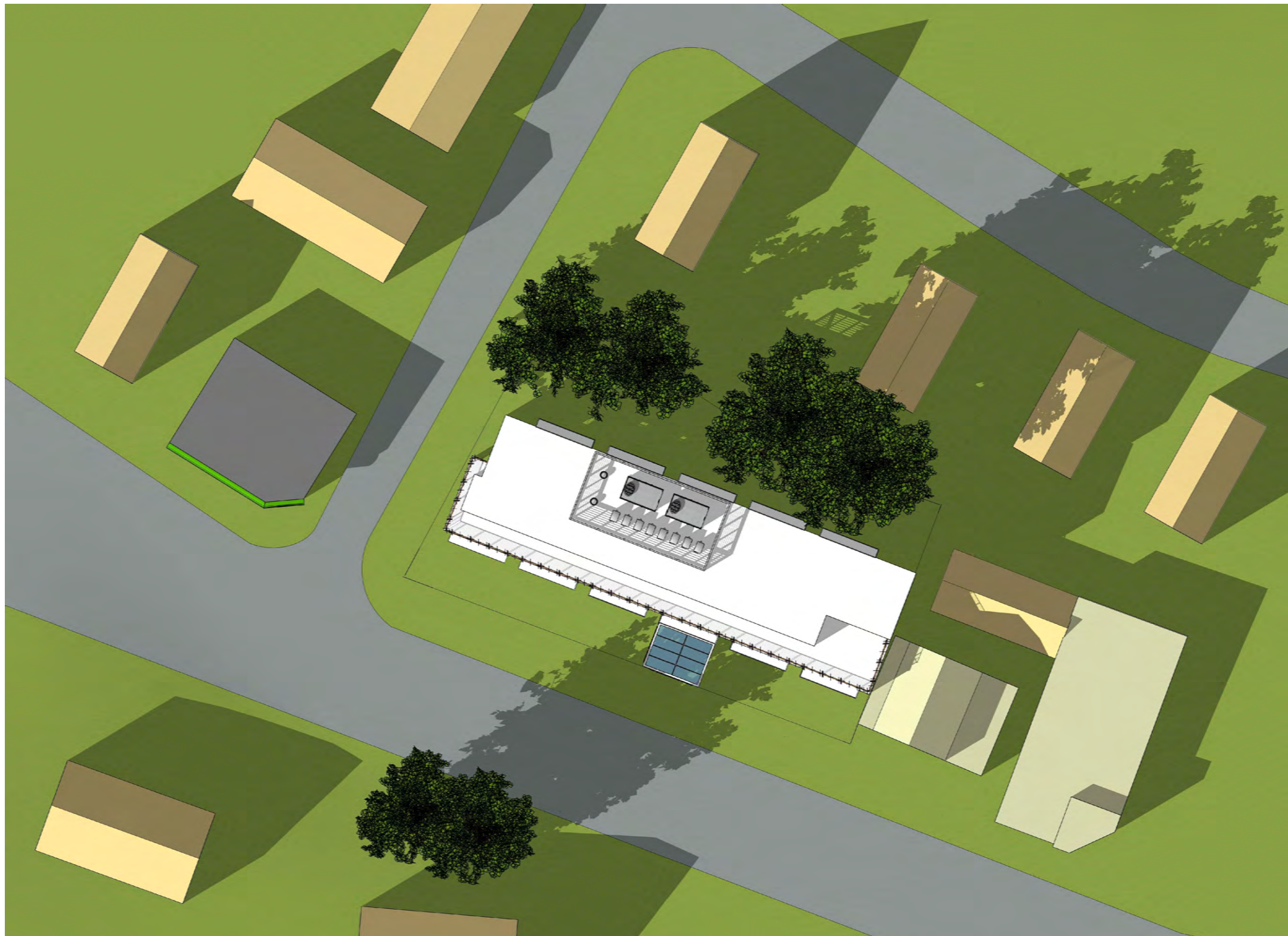
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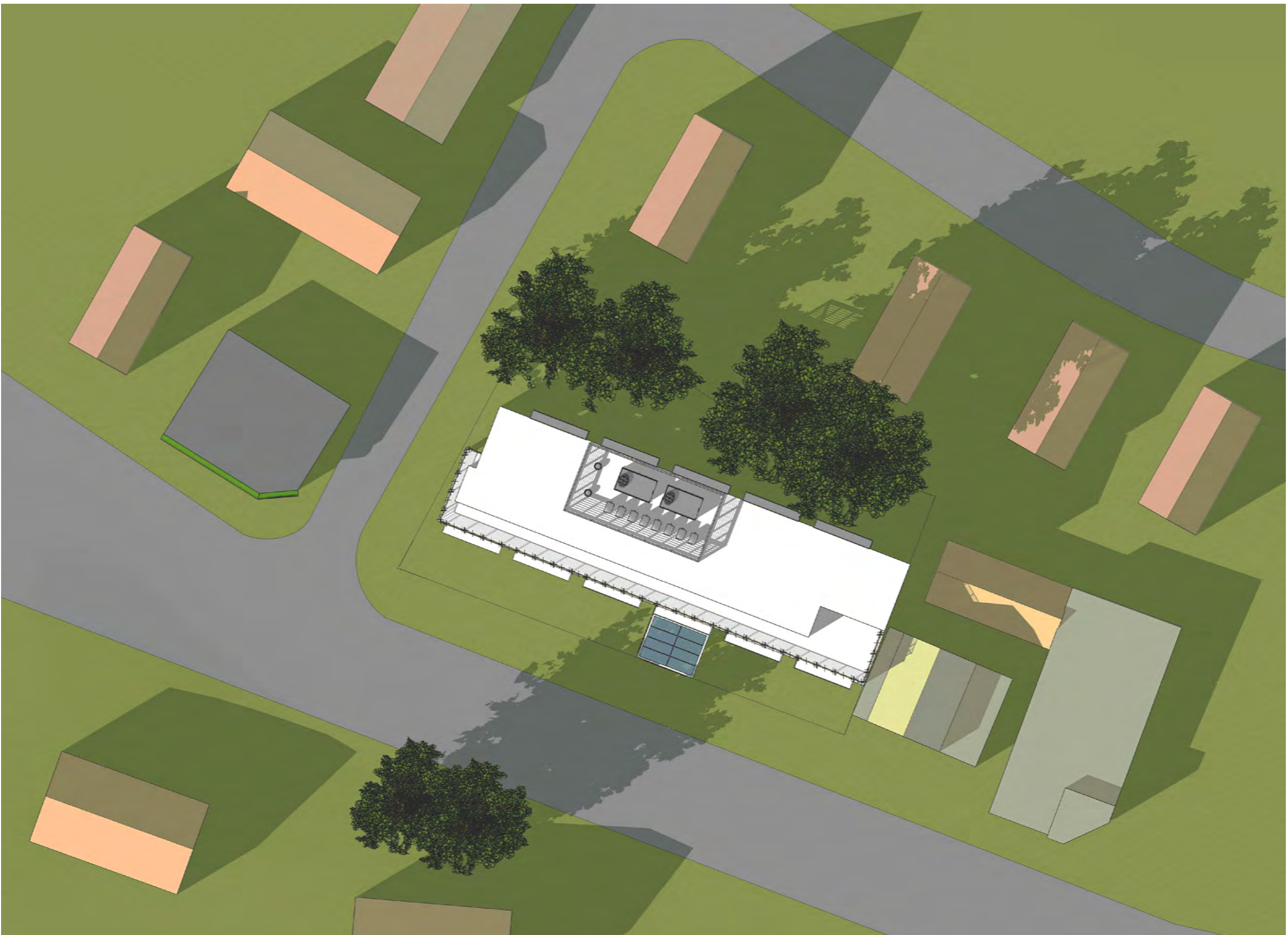
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6:00 PM

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Revisions

PROPOSED HOTEL COMPLEX
1211 Massachusetts Avenue
Arlington, MA

SHADOW STUDY
PROPOSED BUILDING
SPRING EQUINOX

Project Number
2017.032

Drawing Scale
N.T.S.

Drawn By
GMe

Checked By
GMe

Date Issued
06/23/20

A6.4

KRATTENMAKER O'CONNOR & INGBER P.C.

ATTORNEYS AT LAW

ONE MCKINLEY SQUARE
BOSTON, MASSACHUSETTS 02109
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CHARLES G. KRATTENMAKER, JR.
MARY WINSTANLEY O'CONNOR
KENNETH INGBER

OF COUNSEL: RAYMOND SAYEG

June 24, 2020

VIA EMAIL

Jennifer Raitt, Director
Department of Planning and Community
Development
Town of Arlington
730 Massachusetts Avenue
Arlington, MA 02476

Re: 1207-1211 Massachusetts Avenue, Arlington, MA (collectively
referred to as the "Property") / Docket No. 3602

Dear Director Raitt:

Further to the directives of the Arlington Redevelopment Board (hereinafter referred to as the "Board"), I am providing the Board with the additional information requested and a response to the comments made by members of the Board and certain members of the public:

- Use of the Property

The Property is proposed to be a Mixed-Use project as required by the request for proposal issued by the Town for the property at 1207 Massachusetts Avenue. This proposal is for a restaurant and hotel use. The Bylaw defines "Mixed-Use" as "a combination of two or more distinct land uses, such as commercial, lodging, research, cultural, artistic/creative production, artisanal fabrication, residential in a single multi-story structure to maximize space usage and promote a vibrant, pedestrian-oriented live/work environment." Arlington Zoning Bylaw, Article 2, Section 2 (hereinafter referred to as the "Bylaw"). The use of the property is relevant since the Bylaw provides for certain incentives and bonuses for certain uses.

It has been suggested by a member of the public that the bonus provisions, so-called, for floor area ratio set out in Article 5, Section 5.3.6, do not apply because the combined lots are less than 20,000 square feet and the principal use is "residential". In support of this position, this individual cites Article 5, Section 5.5.3 and the heading in the use regulations section. The headings in the Bylaw are not dispositive on this issue and such a position is incorrect as a matter of fact and law. Indeed, the parking and bicycle space requirements for hotels/motels are listed under the heading of "Business or Industrial Use" in Article 6, Sections 6.1.4 and 6.1.12.

Article 2, Section 2, specifically states, "[i]n this Bylaw and unless the context of usage clearly indicates another meaning, the following terms shall have the meanings indicated herein."

Jennifer Raitt, Director

June 24, 2020

Page 2

Where there are definitions in a local bylaw, the Board must rely on the definitions in making its determination. This statement in Article 2 is in accordance with ordinary principles of statutory construction. *Deadrick v. Zoning Board of Appeals of Chatham*, 85 Mass. App. Ct. 539, 545 (2014).

The Bylaw does not define “residential use” but defines “dwelling”. “Dwelling” is defined in the Bylaw as follows:

A privately or publicly owned permanent structure, whether owned by one or more persons or in condominium, or any other legal form which is occupied in whole or part as the home residence or sleeping place of one or more persons. The terms “efficiency,” “single-family,” “two-family,” “duplex,” “three-family” or “multi-family” dwelling, or single-room occupancy building, shall not include hotel/motel, bed and breakfast, hospital, membership club, mixed-use, or mobile home. (emphasis supplied).

Article 2, Section 2 specifically excludes in its definition of “dwelling” “hotel/motel” use and “mixed-use” among other uses. Accordingly, the Board is bound by the definition which clearly states that the definition of dwelling shall not include hotels or motels or mixed-use.

I am informed and, therefore, believe that Attorney Douglas Heim, Town Counsel for the Town, has provided you with a legal opinion that a mixed-use development is permitted in both zoning districts in which this proposed project is intended to be located.

- Floor Area Ratio Calculation for the Building, Bonus and Open Space¹

Article 5, Section 5.3.6 references the exceptions to the maximum floor area ratio (“FAR”) regulations or the “bonus” FAR, so-called. The determination that the proposed project is not a dwelling is relevant to the determination of the bonus FAR provisions contained in Article 5, Section 5.3.6. Article 5, Section 5.3.6C sets out the additional gross floor area or bonus FAR permitted.

The square footage of both lots is 14,030. The GFA would be 21,045 square feet (14,030 x 1.5 – see Article 5, Section 5.5.2. The bonus FAR would be 2,104 (21,045 x .10). See Article 5, Section 5.3.6(D)(5).

¹ The building inspector, Michael Ciampa, has determined that: (a) the floor area of the cellar of the proposed hotel and restaurant is excluded from the calculation of Gross Floor Area as more than one half of its height, measured from finished floor to finished ceiling is below the average finished grade of the ground adjoining the building. Article 2 and Article 5, Section 5.3.22(A)(6); and (b) bay windows that are more than two feet off the floor are likewise excluded from the calculation of Gross Floor Area.

KRATTENMAKER O'CONNOR & INGBER P.C.

Jennifer Raitt, Director
June 24, 2020
Page 3

Section 5.3.6A specifically authorizes the Board to grant a special permit subject to the standards contained in Section 3.3 or 3.4, as applicable, to allow a maximum gross floor area higher than is permitted in the district subject to the requirements set out at 5.3.6A(1)-(3). Accordingly, the total GFA permitted would be 23,149 (21,045 +2,104). The petitioner's proposed GFA is 22,845 square feet.

The petitioner suggests that this proposal satisfies the requirements of Article 5, Section 5.3.6A(1) and (2).

The petitioner is proposing "public access" space, which will provide for a public art and presentation area located in the front right area of the Property. As such, the Property, two lots which are being aggregated with the B-4 use the larger use, is entitled to a 10% increase in FAR. The revised plans which are attached indicate that the petitioner is granting the Town 675 square feet of bonus FAR space, which is substantially more than is required by the Bylaw.

Mr. Benson requested that I provide a draft easement for review by the Board. Attached is the proposed draft, which I have also sent to Attorney Douglas Heim, town counsel, for his review and comment. The easement will be named after Commander James Curley, past commander of the Arlington Disabled American Veterans' Post and a plaque will be installed at the petitioner's expense.

- Corner Lots, Setbacks and Upper Story Stepback

Article 5, Section 5.3.8(A) provides that a "corner lot shall have minimum street yard depths which shall be the same as the required front yard depths for the adjoining lots. The lot adjoining the property at issue on Clarke Street located in an R-2 zone has a front yard depth of 7.9 feet.

The Bylaw requires no front or side yard setback for a Mixed-Use Development, Article 5, Section 5.5.2(B).

The approved correct version of Article 5, Section 5.3.17 provides for an additional 7.5 foot stepback beginning at the fourth story "along all building elevations with street frontage . . ."²

The Board, as confirmed by Town Counsel in his memorandum dated May 13, 2020, has the authority to grant an adjustment to the required setbacks and stepbacks as set forth elsewhere

² Town Counsel's Memorandum dated May 13, 2020, addresses the correct version of Section 5.3.17 to be applied by the Board.

Jennifer Raitt, Director
June 24, 2020
Page 4

in the Bylaw to account for specific conditions unique to the proposal. Thus, the Board has the authority to eliminate or reduce the 7.5 stepback referenced in Article 5, Section 5.3.17.

The petitioner suggests that the conditions unique to this proposal are the development of a mixed-use project, which contains a boutique hotel on substantially unimproved lots. In order to be successful, there must be adequate room revenue. The proposed building is located five feet from the property line on Clarke Street at its closest point and goes to twelve feet from the property line on Clarke Street. The petitioner suggests that the setback of the building from the lot line satisfies the spirit and intent of Article 5, Section 5.3.17.

The petitioner suggests that also unique to this proposal is the fact that this Mixed-Use project will convert a vehicular-oriented business district lot to an aesthetically pleasing mixed-use development that will provide amenities for the Town. The Bylaw, in fact, encourages the conversion of B-4 uses "to other retail, service, office, or residential use, particularly as part of a mixed-use development." (emphasis supplied) Bylaw, Article 5, Section 5.5.1(E).

The petitioner suggests that this project comports with the purposes of the Bylaw to, inter alia, "achieve optimum environmental quality through review and cooperation by the use of incentives, bonuses and design review; and to preserve and increase its amenities and to encourage an orderly expansion of the tax base by utilization, development and redevelopment of land." The proposed project also comports with the Master Plan commissioned by the Town.

In the alternative, as a matter of law, the petitioner suggests that on the issue of "frontage" and any fourth floor story stepback along Clarke Street, there is no "frontage" on Clarke Street.

In Cronin v. Zoning Board for the Town of Lunenburg, a 2009 Massachusetts Land Court decision, (Piper, J.), Misc. 08-381588, the court held that the Zoning Board correctly applied the definition of frontage in its bylaw, which provided that frontage was to be measured along a single street bordering the property even if the property bordered two intersecting rights of way. The court held that the Lunenburg bylaw, which references only a single street in defining frontage, intentionally restricted frontage to one street. The court found that the town failed to use less restrictive language in defining frontage to include "any" public or private right of way, thus, requiring an interpretation of the Lunenburg bylaw limiting the definition of frontage to frontage along a single street.

The court concluded, inter alia, in the Cronin case that the definitional language of the bylaw indicated that not more than one street bordering the property would constitute frontage. A copy of the Cronin case is attached.

The definition of "frontage" in the Bylaw is substantially similar to the definition in the Cronin case. Though the Bylaw contains an illustration that references frontage for a corner lot,

Jennifer Raitt, Director

June 24, 2020

Page 5

any illustrations in the Bylaw are not dispositive on this issue as the illustrations are “not part of the Arlington Zoning Bylaw.” As such, the Board is to be guided by the applicable case law.

- Parking

The Bylaw requires that in a Mixed-Use project, the number of parking spaces required is the sum of uses computed separately. Bylaw, Article 6, Section 6.1.4. The proposed hotel is fifty (50) rooms, which would require fifty (50) spaces – one space per room. A restaurant use in a hotel requires one space per 400 sq. feet of restaurant space. Bylaw, Article 6, Section 6.1.4. Article 6, Section 6.1.10(C) provides that “[f]or Mixed-Use development, the first 3,000 square feet of nonresidential space is exempt from the parking requirements of this Section 6.1.”

Given that the restaurant space itself is 2,800 square feet or nearly 3,000 square feet, there would be no requirement for parking spaces for this use. Accordingly, the number of parking spaces prior to the application of Article 6, Section 6.1.5 the petitioner is required to provide is fifty (50).

Under Article 6, Section 6.1.5, the Board has the authority to reduce parking in Business zones to 25 percent of that required in the Table of Off-Street Parking Regulations if the proposed parking is deemed adequate and where Transportation Demand Management Practices are proposed.

At the request of Mr. Watson, the petitioner has added an electric car charging station to the project. The petitioner is no longer pursuing his request to include tour bus parking at the proposed site.

The petitioner suggests the proposed parking is indeed adequate and has previously provided a Transportation Demand Management Plan. As such, Article 6, Section 6.1.5(C)(1), (6), (8) and (9) apply, enabling the Board to reduce the number of parking spaces to thirteen (13). The petitioner is proposing twenty-four (24) separate parking spaces, which also includes a handicapped space. Due to various enhancements to the hotel design and to facilitate deliveries in the rear of the project, three spaces were required to be removed. Here, the petitioner seeks a reduction to forty-eight percent of the parking required in the Table of Off-Street Parking Regulations or nearly double the number of spaces required by Article 6, Section 6.1.5. Further, the petitioner has the ability to stack or tandem park eight (8) additional cars due to its use of a valet. The Board may recall this approach was approved for Homewood Suites when it applied for its special permit to expand the number of rooms at the hotel. This brings the number of onsite hotel guest spaces to thirty-two (32) spaces or sixty-four percent (64%) of the spaces required by the Table of Off-Street Parking Regulations or two and one-half times the number of parking spaces required by Article 6, Section 6.1.5.

KRATTENMAKER O'CONNOR & INGBER P.C.

Jennifer Raitt, Director

June 24, 2020

Page 6

Further, as the Board requested, the petitioner has secured ten spaces for employee parking. The Executive Secretary for the Select Board, Marie Krepelka, has advised the petitioner that, once the project is approved, seven (7) parking spaces will be rented to the petitioner in the Ottoson Middle School parking lot when school is not in session, specifically, weekdays from 2:30 p.m. to 7:00 a.m., all day weekends, school holidays and vacation periods or at either the skating rink or Hurd Field. The Town makes available for rental spaces in various Town-owned lots. Further, the petitioner has secured three (3) spaces at 1289 Massachusetts Avenue. See the enclosed letter. These ten (10) spaces would be for employee parking only.

The total available parking spaces would be forty-two (42), thirty-two (32) spaces for use for hotel guest parking and ten (10) parking spaces for use by restaurant and hotel employees.

The petitioner suggests that the available parking provided and the Transportation Demand Management Plan, clearly satisfy the intent and requirements of Article 6, Section 6.1.5.

- Parking Restrictions

The Board has requested that the parking available onsite be exclusively for hotel guests. To best accomplish this, the petitioner suggests that during the hours the restaurant is open that a sign be placed at the drive entrance stating that parking is for hotel overnight guests only. The valet service will only park vehicles for guests staying at the hotel.

- Shadow Study

The petitioner has previously provided the Board with a shadow study. Subsequently, a resident, Don Seltzer, who is not an abutter to this proposed development, submitted an "Extended Shadow Study for Hotel Lexington Project," so-called. Mr. Seltzer is not an expert in the field and his submission is not competent evidence upon which the Board may rely. The Board is required to consider reports and studies prepared by experts in the respective fields.

The enclosed shadow study has been updated based on the site topography and not a flat plane. The study was prepared by Lincoln Architects, a qualified expert in the field.

- Traffic Impact Report

Michael Santos, a professional engineer and a certified professional traffic operations engineer associated with BSC Group, Inc., has previously submitted a traffic information summary dated January 16, 2020.

In his January 16, 2020 summary, he concluded that: (a) the proposed project is expected to have a minimal impact on the surrounding roadway network through most of the day; (b) the

KRATTENMAKER O'CONNOR & INGBER P.C.

Jennifer Raitt, Director

June 24, 2020

Page 7

periods that would experience the most impact will occur during off-peak commuter hours, i.e. hotel check-in and check-out; (c) the proposed restaurant will have the highest impact after the weekday evening commuter peak hours when traffic volumes are typically lower; (d) there will be no right turns from the parking area onto Clarke Street northbound; and (e) all deliveries and trash removal service will occur onsite.

Enclosed is a more detailed traffic impact study performed by Mr. Santos, which contains traffic counts for the area, including intersections identified by the Director of Planning, which confirms and validates Mr. Santos' prior conclusions.

- Plan Revisions

The architectural plans have been revised to reflect various comments from the Board members and residents. Some of the revisions include the reduction in height of the front bay windows, the widening of the band around the front of the building, change in style of the rear fourth floor windows, relocation of the equipment screening on the roof, additional shrubbery and landscaping at the front and side of the property and the removal of the sign facing Clarke Street.

- Submittals

Enclosed is the following additional submittals and/or information as requested by the Board:

- a. Offsite parking letter for hotel and restaurant employee parking.
- b. Passenger loading and unloading will be done in the front driveway and portico. Further, I have spoken with Nilesch Patel, the proprietor of BB Liquors, the package store, which is the entity that will be occupying 1215 Massachusetts Avenue. Messrs. Patel and Doherty have agreed to consult and coordinate deliveries to ensure that there are no delivery conflicts. Further, deliveries to the hotel and restaurant can be made either in the front driveway or the rear parking area. The petitioner will defer to the Board as to its preference. Deliveries will be scheduled to avoid morning and afternoon rush hours.
- c. Updated shadow study, which is contained in the plan set.
- d. Building elevations and a site survey prepared by Engineering Alliance, Inc.
- e. An updated site plan prepared by Lincoln Architects, LLC, which includes, among other things, the "bonus" FAR, totaling 675 as well as the location of

KRATTENMAKER O'CONNOR & INGBER P.C.

Jennifer Raitt, Director
June 24, 2020
Page 8

the proposed drainage system. It also shows the turning radius onto Clarke Street from the proposed project.

- f. Plans for sidewalk upgrades adjacent to the curb cut on Clarke Street are included in the plans. The new sidewalks will be to the Town's specifications and will meet ADA requirements.
- g. Lighting/photometric plan prepared by Shepherd Engineering, Inc.
- h. Updated plans that address design issues raised at prior meetings.
- i. Renderings showing the location of rooftop mechanical equipment.
- j. Information as to the exterior siding have been updated and included on the plans. The petitioner is awaiting delivery of material samples for submission to the Board.

Finally, Mrs. Le Royer expressed a concern as to how the Town will ensure that the project once constructed will not deteriorate and will comport with the permit granted. The petitioner suggests that the Board has the ability and routinely exercises its authority to ensure that a project remains in compliance with the general and special conditions voted by the Board by retaining jurisdiction.

On behalf of the petitioner, I thank the Board and Ms. Raitt for the significant amount of time and input they have provided on this project.

Very truly yours,

Mary Winstanley O'Connor

MWO/ccg
Enclosures
6214

cc: James F. Doherty

June 19, 2020

Andrew Bunnell, Esq., Chairperson
Arlington Redevelopment Board

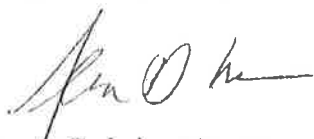
733 Massachusetts Avenue
Arlington, MA 02476

Re: 1207 - 1211 Massachusetts Avenue, Arlington, MA
Docket No. 3602

Dear Mr. Bunnell:

This letter shall confirm that, in the event the special permit is granted in the above-referenced matter, I will rent three (3) parking spaces at 1289 Massachusetts Avenue, to be utilized by employees of the proposed hotel.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Sean Galvin", with a stylized flourish at the end.

Sean Galvin, Trustee
1020-1024 Beacon Street Realty

{00082093 1 }

EASEMENT AGREEMENT

This **EASEMENT AGREEMENT** (this "**Easement**") is made as of this ____ day of _____, 2020, by and among **JAMES F. DOHERTY**, Trustee of the 1211 Massachusetts Avenue Realty Trust, a Massachusetts nominee realty trust under declaration of trust dated November 21, 2012 and recorded in Middlesex So. Registry of Deeds in Book 60543, Page 430 (hereinafter referred to as the "**Grantor**"), and the **TOWN OF ARLINGTON**, a municipal corporation, having an address of 730 Massachusetts Avenue, Arlington, MA 02476, acting by and through its Redevelopment Board (hereinafter referred to as the "**Town**" or "**Grantee**").

WITNESSETH:

WHEREAS, Grantor is the owner of certain property situated at and known as 1207-1211 Massachusetts Avenue in the Town of Arlington, Middlesex County, Commonwealth of Massachusetts, containing approximately 675 square feet (hereinafter referred to as the "**Property**"), and which is more particularly described on Exhibit A;

WHEREAS, the Town in its Zoning Bylaw, last amended on April 22, 2019, specifically Article 5, Section 5.3.6, empowered the Arlington Redevelopment Board (hereinafter referred to as the "**Board**") to grant a special permit to allow for a maximum gross floor area greater than is permitted to an applicant seeking a special permit, when an easement is granted to the Town for public access and use;

WHEREAS, the Grantor has requested that the Board approve additional gross floor area in consideration of the above-referenced grant of a public access and use easement; and

WHEREAS, the Board on _____, 2020 granted a special permit to the Grantor for the properties known and numbered as 1207 and 1211 Massachusetts Avenue, Arlington, MA in Docket No. 3602, which included, inter alia, additional gross floor area for the proposed project referenced therein (hereinafter referred to as the "Project").

NOW, THEREFORE, for and in consideration of the mutual covenants and agreements herein contained and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree as follows:

1. **Grant of Easement.**

- a. **Grant of Easement: Public Use and Access.** The Grantor hereby grants to the Town, for the benefit of the inhabitants of the Town of Arlington and the general public, a non-exclusive right and easement over, across and through the land specifically identified in Exhibit "B" attached hereto (hereinafter referred to as the "Easement"). Grantor hereby agrees and acknowledges that the inhabitants of the Town of Arlington and the general public shall have the right, upon the completion of the construction of the Project, to the use and enjoyment of the Easement pursuant to the provisions of subparagraph 1.b. below.

Grantor hereby agrees and acknowledges that Town shall have the right to utilize the Easement for such public activities and events as the Town may desire to sponsor, from time to time, provided, however, that (i) such use by the Town shall be subject to the reasonable rules and regulations as Grantor and the Board may establish from time to time for the Property; (ii) to the extent permitted by law, Town agrees to indemnify and hold Grantor harmless from any and all claims, damages, liabilities, obligations, costs and/or expenses, including, without limitation, reasonable attorneys' fees, incurred or suffered by Grantor as a result any injury, death or property damage suffered by any parties, as the result of the Town's use of the Easement for such purposes; and (iii) to the extent that the Town carries insurance or self-insures against liabilities with respect to public roadways and/or sidewalks within the Town, it will use reasonable efforts to ensure that such self-insurance will cover its use of the Easement for the above purposes. The Easement shall be utilized for cultural, patristic, poetic and educational purposes. It shall not be utilized for any politically partisan purposes. The Easement shall be utilized for scheduled purposes two (2) times per week during the following time periods: Monday-Friday 10:00 a.m.-7:00 p.m. and Saturday-Sunday 11:00 a.m.-8:00 p.m.

- b. Redevelopment of the Property. Grantor shall deliver to Town an as-built plan showing the location of the Easement Area (the "**As-Built Easement Plan**"), which As-Built Easement Plan shall contain the square footage of the Easement Area, shall depict an Easement Area that is materially consistent with the location and extent of the same depicted on the Plans submitted to the Board and shall otherwise be reasonably acceptable to the Town. In the event that the Board does not approve the As-Built Easement Plan within twenty (20) days of its receipt (or deemed receipt) thereof, the As-Built Easement Plan shall be deemed approved by the Board. Upon the Town's approval, whether actual or deemed, of the As-Built Plan, the Grantor shall cause the As-Built Plan to be recorded with the Registry of Deeds and provide the recording information of such Plan to the Town upon the Grantor's receipt thereof.
- c. Grantor's Retained Rights. Grantor hereby agrees and acknowledges that he shall keep the Easement Area open and unobstructed at all times, subject, however, to Grantor's rights contained in subparagraph 1.b. above and to the following further limitations:
 - i. the Grantor specifically reserves the right to construct and install utilities, as well as landscaping, lighting and other amenities, upon, above and below the surface of the Easement Area; provided, however, that such installation of such utilities, as well as landscaping, lighting and other amenities, do not materially interfere with the Town's use and enjoyment of the Easement Area; and

- ii. the Grantor reserves the right to perform any maintenance, repair, and/or replacement of any and all improvements and utilities upon, above, or below the Easement Area, including, without limitation, hardscaped and landscaped elements within such Area, and, in connection with such activities to temporarily close the Easement Area or to restrict pedestrian access to portions thereof. Except in cases of emergency (i.e. occurrences involving an imminent threat of damage or injury to persons or property), which shall be determined in the sole discretion of the Grantor, the Grantor will provide reasonable advance written notice to the Town before commencing any work in the Easement Area that will disrupt, in whole or in part, the Town's use thereof. Whenever any work is to be performed upon the Easement, such work shall be performed (a) in a safe, diligent and workmanlike manner and in compliance with all applicable laws, ordinances, orders, rules, regulations and requirements of all governmental authorities having jurisdiction thereover and with all necessary permits and approvals having been issued therefore, and (b) in a manner that causes the minimum amount of interference with the Town's use and enjoyment of the Easement Area.
 - d. Name. The Easement shall be named "The Commander James Curley Plaza" and will contain a plaque installed by the Grantor containing information as to Commander Curley's volunteer work for the Town and its disabled American veterans.
2. Term. The rights and easements granted herein shall commence upon the grant of a certificate of occupancy for the Project and shall remain in full force and effect for so long as the Project is constructed and continues to exist on the Property and Grantor is exercising its respective rights with regard to the same under any Special Permit granted by the Town of Arlington Redevelopment Board. Notwithstanding the above, the parties hereby agree that if Grantor does not commence the proposed redevelopment Project referenced in Docket No. 3602, this Easement shall automatically terminate and shall be deemed null and void and without further force or effect, without the need for the parties to execute or record any release or any other document.
3. Miscellaneous Provisions. Notwithstanding anything to the contrary contained herein, the rights with respect to the Easement Area are granted subject to the following:
- a. Non-Interference. The Town's use of the Easement Area shall not materially interfere with the use and enjoyment of the Property by the Grantor or his respective successors and assigns. Except for the rights and easement expressly granted herein, no other easements, whether express or

implied, are granted or created by this instrument. Without limitation of the foregoing, nothing herein shall be deemed to create any rights on the part of the Town outside of the Easement Area or any rights to enter onto the Easement Area for maintenance and repair purposes.

- b. Notices. All notices and other communications authorized or required hereunder shall be in writing and shall be given (1) by hand delivery, (2) by mailing the same by certified mail or registered mail, return receipt requested, postage prepaid, or (3) by overnight air courier or express delivery service with proof of delivery acknowledged. Any such notice or other communication shall be deemed to have been given when received by the party to whom such notice or other communication shall be addressed, or on the date noted that the addressee has refused delivery, or on the date that the notice is returned to sender due to the inability of the postal authorities to deliver. Any party hereto may change the address to which notices to it shall be sent by a notice sent in accordance with the requirements of this Section 3.b. Notice shall be given to the following:

To Grantor:

James F. Doherty, Trustee
c/o 1122 Massachusetts Avenue
Arlington, MA 02476

With a copy to:

Mary Winstanley O'Connor, Esq.
Krattenmaker O'Connor & Ingber P.C.
One McKinley Square, 5th Floor
Boston, MA 02109

To Grantee:

Town of Arlington
Arlington Redevelopment Board
733 Massachusetts Avenue
Arlington, MA 02476
Attn: Jennifer Raitt, Director of Planning

With a copy to:

Douglas Heim, Esq.
The Office of the Town Counsel
50 Pleasant Street
Arlington, MA 02476

- c. Successors and Assigns. The rights, easement, liabilities, agreements and other obligations as set forth shall inure to the benefit of and be binding upon the heirs, successors and assigns of the Grantor; provided, however, that the Grantor shall only be responsible hereunder for matters occurring on or with respect to the Easement Area, and only during its period of ownership of the Property. In no event shall any member, manager, director, officer, employee, shareholder, partner, trustee, tenant, agent or representative of the Grantor, an owner of all or any portion of the Property, or any mortgagee ever be personally liable for the payment or performance of any obligations under this Easement, and the Town agrees to look solely to the Property, in satisfaction of Grantor's obligations under this Easement. The Town acknowledges that it shall not have the right to assign any rights granted hereunder to any party without the written consent of the Grantor, which consent may be granted, withheld, conditioned or delayed in Grantor's sole and absolute discretion. Upon the expiration of the Term as set forth in Section 2 above, Grantors may record an affidavit evidencing such expiration with the Registry.
- d. Subject to Existing Record Matters. The rights and easement herein granted are subject to all restrictions, covenants, easements and other encumbrances of record to the extent in force and applicable.
- e. Amendments. This Easement may be amended or modified at any time by a declaration in writing mutually agreed to, executed and acknowledged by each of the parties hereto, and thereafter duly recorded in the Registry.
- f. Severability. If any term, provision, covenant or condition of this Agreement shall be or become invalid, illegal or unenforceable in any respect under any applicable law, the validity, legality and enforceability for the remaining provisions (or the application of such term, provision, covenant or condition to persons or circumstances other than those in respect of which it is invalid or unenforceable), except those terms, provisions, covenants or conditions which are made subject to or conditioned upon such invalid or unenforceable term, provision, covenant or condition, shall not be affected thereby, and each other term, provision, covenant and condition of this Agreement, unless conditioned upon such invalid or unenforceable term, provision, covenant or condition, shall be valid and enforceable to the fullest extent permitted by law.
- g. Effect on Other Agreements. This Easement does not affect the rights and obligations of the parties under any other agreement between the parties.
- h. Counterparts; Headings. This Easement may be executed in multiple counterparts, each of which shall be deemed an original and all of which, collectively, shall be deemed one and the same instrument. The headings herein are inserted only as a matter of convenience and for reference and in

no way define, limit or describe the scope or intent of this document nor in any way affect the terms and provisions hereof.

- i. Governing Law. This Easement shall be governed by the laws of the Commonwealth of Massachusetts as the same may now exist or may be hereinafter enacted.

[Signatures appear on the following page]

EXECUTED as a sealed instrument as of _____, 2020.

GRANTOR:

1211 MASSACHUSETTS AVENUE
REALTY TRUST, a Massachusetts
nominee realty trust

By: _____
Name: James F. Doherty
Title: Trustee
Hereunto Duly Authorized

COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss:

On this ____ day of _____, 2020, before me, the undersigned notary public, personally appeared JAMES F. DOHERTY, proved to me through satisfactory evidence of identification, which was personal knowledge, to be the Trustee of 1211 Massachusetts Avenue Realty Trust, and acknowledged to me that he signed it voluntarily for its stated purpose as the Trustee of the realty trust.

Notary Public

Print Name: _____
My Commission Expires: _____

[affix seal]

GRANTEE:

TOWN OF ARLINGTON
REDEVELOPMENT BOARD

ANDREW BUNNETT, ESQ.
Chairperson

EUGENE BENSON

KIN LAU

DAVID WATSON

RACHEL ZSEMBERY



DANIEL W. CRONIN and JACQUELYN M. CRONIN vs. DONALD BOWEN, RAYMOND BEAL, JAMES BESARKARSKI, HANS WENTHRUP DAVID BLATT, SHEILA LUMI, and PAUL DOHERTY, As They are Members of the Zoning Board of Appeals for the Town of Lunenburg; and EDWARD M. CATALDO, As He is Alternate Building Inspector

MISC 08-381588

October 7, 2009

WORCESTER, ss.

Piper, J.

DECISION DENYING PLAINTIFF'S MOTION FOR SUMMARY JUDGMENT and GRANTING DEFENDANT'S CROSS-MOTION FOR SUMMARY JUDGMENT

This matter came before the court on the motion for summary judgment filed by plaintiffs Daniel W. Cronin and Jacquelyn M. Cronin ("plaintiffs" or "Cronins"). Pursuant to G. L. c. 40A, §17, plaintiffs appeal from the decision ("Decision") of

205 of 826

the Zoning Board of Appeals (□Board□ or □ZBA□) of the Town of Lunenburg (□Town□) whose members are defendants. The Board filed the Decision with the Clerk of the Town on May 28, 2008. In its Decision, the Board upheld the denial--by the Town's Acting Building Inspector (□inspector□), also named as a defendant--of the Cronins' application for a residential building permit.

The focus of this litigation is on the compliance with the dimensional zoning requirements of the Town of a lot owned by plaintiffs. The plaintiffs assert that the Town officials involved incorrectly measured this property's frontage and lot width, and that a proper calculation would show that the relevant portion of plaintiffs' land in the Town, numbered 27 Oak Avenue, shown on a recorded plan as Lot 2, all as described more particularly below, has both sufficient frontage and lot width to comply with the municipal zoning law. Because the inspector took the contrary view, concluding that Lot 2 failed to meet these dimensional requirements, he denied a building permit which plaintiffs had sought for an abutting parcel they own, known as Lot 1B.

The inspector determined that, because Lots 1B and 2 had been owned together, and Lot 1B came to be established separately as a result of a division of the larger holding--which left Lot 2 in violation of the contested dimensional requirements--Lot 1B was not eligible for a building permit. The inspector applied the doctrine sometimes referred to as "infectious invalidity" to determine that, under the circumstances present here, the dimensional shortfalls of Lot 2, which had already been improved with a residential structure, prevented issuance of the requested building permit for construction of a house on currently unimproved Lot 1B. See, on infectious invalidity, *Alley v. Building Inspector of Danvers*, 354 Mass. 6 (1968).

The inspector's stated grounds for denial were that Lot 2 had insufficient frontage and lot width under the dimensional zoning requirements in the Protective Bylaw of the City of Lunenburg (□Bylaw□). The Board, in its Decision, upheld these conclusions. The defendants assert that the inspector properly applied the Bylaw, and correctly denied the Cronins' building permit request.

On June 13, 2008, the Cronins filed in this court a complaint for judicial review of the Board's denial of their administrative appeal from the building inspector's determination that he could not issue the building permit. On November 17, 2008,

plaintiffs filed a motion for summary judgment and a supporting memorandum of law. On December 19, 2008, the defendants filed an opposition to the plaintiffs' motion, a cross-motion for summary judgment, and a supporting memorandum of law. After argument, upon review of the record, and following consideration of the moving and supporting papers, the court now decides the motions before it.

The following facts are properly before the court for its consideration based on materials submitted pursuant to Mass. R. Civ. P 56 (c), and appear to be undisputed:

1. As of 2004, the Cronins owned property in Lunenburg located at 31 Turkey Hill Road. In March of that year, the Cronins purchased the neighboring lot, 27 Oak Avenue, the lot at the intersection of Turkey Hill Road and Oak Avenue.

2. Bylaw Section 2.1.1.17 sets forth the following definition of "Frontage":

The linear extent of the line: measured along a street right-of-way from the intersection of one side lot line to the intersection of the other side of the same lot, provided that; a) The lot is on a street or way legally accepted by the Town Meeting vote, or b) The lot is on a street or a way established by a county, state, or federal authority, or c) The lot is shown on a street or a way established by a subdivision plan approved in accordance with the Subdivision Control Law, or d) The lot is on a street or way on a list maintained by the Town Clerk which is determined to qualify for frontage under the provisions of this section. □

3. Bylaw Section 2.1.1.28(b) defines "lot width" as:

Lot width is the minimum distance between the side lot lines of the lot measured on any line parallel to a line joining the intersection of the side lot line with the right-of-way at any point between said intersection and the nearest point of the principal building and the right-of-way line.

4. At the time of purchase, 27 Oak Avenue had a lot width of 140 feet. In this respect, the defendants concede that 27 Oak Avenue was a lawful, pre-existing non-conforming lot.

5. On March 28, 2005, the Lunenburg Planning Board endorsed, under G. L. c. 41 § 81P, a so-called "Approval Not Required Plan" titled "Plan of Land in Lunenburg, Massachusetts Scale 1 in. = 40 ft. Prepared for: Daniel Cronin" ("ANR Plan"), dated February 15, 2005; the ANR Plan was recorded on April 1, 2005 in the Worcester (Northern District) Registry of Deeds in Plan Book 454, Page 21. A copy of a portion of the ANR Plan is attached to this Decision as an exhibit.

6. As shown on the ANR Plan, Turkey Hill Road and Oak Avenue meet at a rounded corner at the 27 Oak Avenue property, which is shown on the ANR Plan as Lot 2. The ANR Plan shows a curve, as measured along the line of the boundary which Lot 2 has with these adjoining streets, having a radius of twenty feet and a circumference of 31.42 feet.

7. The ANR Plan showed the reconfiguration of the land which had been 27 Oak Avenue and 31 Turkey Hill Road to create, in addition to those two previously built-upon house lots, a new lot ("New Lot" or "Lot 1B") shown on the ANR Plan as Lot 1B, containing 96,762 square feet. It is this Lot 1B for which the unsuccessful application for a building permit was made, giving rise to the appeal now before this court. The New Lot, as shown on the ANR Plan has a 52.88-foot wide stretch of frontage on Turkey Hill Road.

8. According to the ANR Plan, with the creation of the New Lot, 31 Turkey Hill Road, shown as Lot 1A, has 61,043 square feet; 27 Oak Avenue has 40,178 square feet; and the New Lot comprises 96,762 square feet.

9. The ANR plan shows that currently 31 Turkey Hill Road and 27 Oak Avenue each contain one residential building.

10. The ANR Plan also shows that 27 Oak Avenue has two driveways, which enter from both Turkey Hill Road and Oak Avenue. These driveways existed when the plaintiffs purchased the property. 27 Oak Avenue also has a pool located behind the residential structure; the pool is not displayed on the ANR Plan.

11. Neither the New Lot nor 27 Oak Avenue connected to the municipal sewer when the plaintiffs created the New Lot. 27 Oak Avenue depended on a private septic system.

12. In 2004, the plaintiffs proposed to extend the municipal sewer line onto Turkey Hill Road from Oak Avenue, as Turkey Hill Road did not connect to the municipal sewer. This proposal was withdrawn.

13. In January 2005, the plaintiffs' engineer, Mr. Steven Marsden (||Marsden||), met with Building Inspector Sauvageau (| Sauvageau |) to discuss a proposal to connect the New Lot to the municipal sewer present on Oak Avenue. The plan for sewer connection was to have a five foot wide strip of land, at and formerly part of the southwestern side of Lot 2, separated from Lot 2's ownership and transferred to the undeveloped Lot 1B. This strip, denominated Parcel C on the ANR Plan, was to serve as the locus of the sewer pipe connecting Lot 1B to the sewer main in Oak Avenue.

14. On April 5, 2005, the Lunenburg Selectmen, acting as Sewer Commissioners, approved that plan, in the configuration depicted on the ANR Plan.

15. The plaintiffs transferred by deed the fee ownership of the five-foot wide by approximately 260- foot long strip, Parcel C, to serve as an extension of Lot 1B, along the southwestern lot line of 27 Oak Avenue, permitting the New Lot to connect to the municipal sewer in Oak Avenue. The plaintiffs subsequently received the necessary permits, and installed sewer lines in the strip, to connect both 27 Oak Avenue and the New Lot to the sewer main in Oak Avenue.

16. On February 8, 2008, the plaintiffs applied for a building permit to construct a single-family house on the New Lot.

17. In a letter to the plaintiffs dated February 15, 2008, Alternate Building Inspector Cataldo denied the building permit for the New Lot, stating his conclusion that 27 Oak Avenue did not fulfill the minimum frontage requirement of 100 feet in Bylaw § 2.1.1.17, because, in his view, the transfer of the sewer extension strip, five feet in width, had reduced the frontage of what previously had been the 27 Oak Avenue lot from 103 feet to 98 feet (both as measured along Oak Avenue), resulting in less than the 100 feet required; he also took the position that the new lot lines resulted in a reduced lot width of the 27 Oak Avenue property. For these reasons, the inspector determined that infectious invalidity existed, and that the New Lot could not receive the requested building permit.

18. On March 14, 2008, the plaintiffs appealed the denial of the building permit to the Board. The Board heard the plaintiffs' appeal on April 23, 2008 and May 14, 2008.

The Board upheld the Alternate Building Inspector's denial of the building permit for the plaintiffs' New Lot in the Decision. This appeal followed.

Summary judgment is appropriate in those cases where no genuine issues exist as to material fact and where the moving party is entitled to judgment as a matter of law. *Community Nat'l Bank v. Dawes*, 369 Mass. 550, 553 (1976); Mass. R. Civ. P. 56(c). The moving party must affirmatively show the absence of any triable issues or facts. *Pederson v. Time Inc.*, 404 Mass. 14, 16-17 (1989). In deciding motions for summary judgment, the court may consider pleadings, depositions, answers to interrogatories, admissions on file, and affidavits. *Community Nat'l Bank v. Dawes*, 369 Mass. 550, 553 (1976). The moving party can satisfy this burden by submitting affirmative evidence showing that the opposing party has no reasonable expectation of proving an essential element of its case or by negating an essential element of the opposing party's case. *Kourouvabilis v. General Motors Corp.*, 410 Mass. 706, 716 (1991).

On an appeal under G. L. c.40A, §17, the judge hears the matter de novo and determines the validity of the board's decision on the basis of the facts found by the judge. *Gordon v. Zoning Bd. of Appeals of Lee*, 22 Mass. App. Ct. 343, 348 (1986).

The defendants contend that, notwithstanding the de novo review ordinary in a case such as the one now before me, this matter is one in which the court addresses an issue of local discretion that requires familiarity with local conditions, and so the court ought review the decision of the zoning board with a good measure of deference. It is certainly true that, in appropriate cases, there is a meaningful place in appeals brought under G.L. 40A, §17 for a court to defer to local knowledge and decisionmaking. The local board of appeals brings to the matter an intimate understanding of the immediate circumstances, of local conditions, and of the background and purposes of the entire [zoning] by-law. . . . *Berkshire Power Development, Inc. v. Zoning Bd. of Appeals of Agawam*, 43 Mass.

App. Ct. 828 , 832 (1997) (review of special permit decision) (quoting *Fitzsimonds v. Board of Appeals of Chatham*, 21 Mass. App. Ct. 53 , 57 (1985))(same). The court gives deference to municipal zoning board decisions when the issue requires particularized local knowledge. *Murray v. Board of Appeals of Barnstable*, 22 Mass. App. Ct. 473 , 479 (1986)(same).

In the case at bar, the primary question for decision involves the interpretation of contested provisions of the municipal zoning law, particularly those which define and regulate minimum frontage and lot width. The task for the court is to read and interpret, as a legal matter, the meaning of these enactments, and, having determined their meaning, to apply the provisions to the facts presented by the Cronins' lots, as depicted on the relevant plan. This role is traditionally left to the courts to perform. The language of the Bylaw needs to be read and interpreted, and that is a familiar responsibility of the courts. This is not an instance in which the local Board has made its decision as a discretionary matter, as when a special permit granting authority, exercising the considerable discretion it has in such a case, decides to grant or refuse a special permit. In those kinds of judicial appeals, the court's review is highly deferential.

Here, the question is what the words of the Bylaw mean. The Bylaw is law, locally enacted. To be sure, the view of the zoning board on matters involving interpretation of the bylaw in the municipality is to be sought and considered with respect: at least in the first instance, the board's administrative view is valuable and is wanted. *Fitzsimonds*, supra, 21 Mass. App. Ct. at 57. If, however, the local Board reads the disputed provisions of the Bylaw in a way which the court determines is at odds with their meaning, as a matter of legal interpretation, then the Board's view on the point must yield to the court's. Otherwise, the Board's interpretation of the law might supplant the meaning of it as enacted legislatively in the Town. If there is a reason to look to the local knowledge residing in the Board to aid in the interpretation or application of the meaning of the Bylaw, then some deference certainly is due the Board. Here, on the central questions--the method the Bylaw establishes for the measurement of the minimum frontage length and minimum lot width which corner lots must supply--there is not an obvious reason which especially calls for resort to particularized local knowledge which might reside in the Board in manner which calls for complete deference. Unless the meaning of

the Bylaw provisions is inscrutable as enacted, this is an issue of legal interpretation which focuses on the language of the Bylaw itself. □ Statutory interpretation presents a question of law for the Court. □ *Boston Police Patrolmen Ass'n. v. Boston*, 435 Mass. 718 , 719 (2002).

Locating Frontage of a Corner Lot

The parties disagree how the Bylaw requires the court to measure the frontage of a corner lot, given their competing interpretation of the relevant words of the Bylaw. The plaintiffs contend that by measuring the length along only one right-of-way, the municipal defendants did not correctly apply the legislative definition of frontage to the Cronins' corner lot. Plaintiffs argue that the words of the Bylaw permit (indeed, require) but one interpretation: that the combined length of the boundary lines of their Lot 2 alongside both Turkey Hill Road and Oak Avenue are to be counted as frontage. Counted this way, the Cronins would have more than sufficient frontage for Lot 2 following the splitting off of the five-foot wide strip used to provide the route for the connecting sewer lines.

Bylaw § 2.1.1.17 does not include an additional method for measuring the frontage required of lots that are bounded by two streets, such as the corner lot at issue, Lot 2. To reinforce their contention that Lot 2's sidelines along both streets should be considered, in the aggregate, as frontage, the plaintiffs reach to other sections of the Bylaw, including those relating to driveways, to reinforce their argument. The Bylaw defines "driveway" as "[a] way for the passage of vehicles from the street used to qualify for required frontage to a garage or off-street parking and loading area." Bylaw § 2.1.1.12. The plaintiffs argue that Lot 2's pair of driveways, which enter it from both streets to reach the garage(s) on Lot 2, qualify both streets to be included in the frontage of that lot. The plaintiff looks to *Bosworth v. Whiteside* for the proposition that "in most instances, the frontage will be the place where traffic from the lot enters and exits from the street." *Bosworth v. Whiteside*, 16 LCR 686 , 689 (2008) (Misc. Case No. 340917) (Piper, J.).

Both the definition of driveway in the Bylaw, and the *Bosworth* opinion, describe activities that ordinarily take place across the frontage of a lot, rather than activities that per se designate particular lot lines as supplying frontage for zoning purposes. Entry and exit from a lot across a lot line do not necessarily define

frontage; traffic also may reach a property using a right-of-way easement over land of another, and that does not necessarily convert the line where the easement meets the lot as frontage for the purpose of measuring minimum required frontage of the lot. *Id.* The Bylaw definition of driveway requires that it connect to the street which supplies the lot's frontage, but frontage, as contemplated by the Bylaw, does not necessarily require a driveway.

Defendants argue that the Bylaw requires frontage to be measured along a single street, indicating the intention to limit the measurement of frontage to one street. The examples listed in Bylaw § 2.1.1.17 (a)-(c), which all refer, in the singular, to a street or way, reinforce the legislative emphasis on using a single street. The defendants present alternative definitions of frontage from the Bylaws of other towns which use less restrictive language in defining frontage, such as any, to demonstrate that the language used in the Bylaw intentionally restricts frontage to one street. Defendants' position on this is persuasive. It is not possible to ignore the clear meaning and thrust of the Bylaw, which limits the availability of frontage, to meet the required minimum length, to frontage along a single street. Bylaw § 2.1.1.17 limits frontage available to satisfy the minimum required to a length measured along a single street bordering the property, even if the property does border two intersecting rights-of-way.

In determining which lot lines should be designated front, side, or rear, courts have considered [t]he general location, the manner in which the particular lot and its adjacent lots have been laid out, the customs of surveyors in that respect, the uses to which the lot has been put as well as those to which it is proposed to be put, the practices of public officers charged with duties respecting it, and all the other pertinent facts touching the customs of the neighborhood. . . . *Bianco v. Ashley*, 284 Mass. 20 , 25 (1933). Analysis of the uncontested record facts supports the conclusion that Oak Avenue should be designated as the front line for the lot in question, Lot 2. The location of the building on this lot implicates Oak Avenue as the front lot line. Treating Turkey Hill Road as the front of Lot 2, and as the road supplying its frontage, would make the existing building violate front yard setback requirements. What is shown on the ANR Plan as Lot 2 previously had its frontage and its address on Turkey Hill Road, but an application for a residential building permit in 1984 modified the address to what it has been called since, 27 Oak

Street. This deliberate selection of Oak Avenue as the street constituting the front line of the parcel was necessary for the then owners to construct the house now on Lot 2 in its present location without violating the existing setback requirements for front and side yards. Plaintiffs have not shown any use of the property that is inconsistent with classifying Oak Avenue as the street constituting the parcel's front line. Lot 2, 27 Oak Avenue, has its frontage on Oak Avenue. Lot 2 does not have frontage on Turkey Hill Road.

Measuring the Frontage of a Corner Lot

The parties disagree about the proper measurement of the lot's frontage on Oak Avenue. Bylaw § 2.1.1.17 states that frontage is the linear extent of the line: measured along a street right-of-way from the intersection of one side lot line to the intersection of the other side of the same lot. . . . The ANR Plan shows that Oak Avenue and Turkey Hill Road do not meet at the point of an angle, but rather along a rounded corner. According to the ANR Plan, the outermost edge of this curve at the southeast of 27 Oak Avenue, at the two streets' intersection, follows along a portion of a circle which has a radius of twenty feet for a length of 31.42 feet from the first point at which the road bends, to the end of the curve. Plaintiffs, as an alternative position, assert that some portion of this distance should be included in the measured frontage for 27 Oak Avenue. The defendants read the Bylaw to exclude any of the curving distance at the meeting of the two streets from the measure of frontage, asserting that the Bylaw requires a linear frontage measurement, which they say definitionally excludes curves.

The Bylaw does not define or otherwise helpfully address what is meant by "intersection." The court will look to the plain meaning of the word intersection as a place where two or more lines cross or come together. When two lines cross, there is one single point where the lines intersect. The Bylaw definition of frontage designates two points as the starting and ending point of the measured frontage. These points, included in the "extent of a line" measuring frontage, are described as "the intersection of one side lot line to the intersection of the other side of the same lot." Bylaw § 2.1.1.17. The Bylaw does not include provisions that explicitly exclude curves from inclusion in frontage. *Id.* The Bylaw does not provide alternate methods for designating the start- or end-points for measuring frontage if the intersection of a side lot line and the frontage occurs on a curved road. It defines

logic and ordinary experience to say that the measurement required to determine adequacy of frontage throughout the Town may only be made, under the words of this Bylaw, where the line along the street right-of-way runs entirely straight.

The Board relies on a narrow reading of the word "linear" in the Bylaw to have the court limit measured frontage to a single straight line. Aside from the presence of "linear" in the definition (a word which simply restates the noun "line") the Bylaw does not explicitly restrict the measurement to only straight lines, and the defendants did not advance any satisfying explanation, supported by the Bylaw, why such a narrow reading would be called for by the Bylaw's words. In ordinary usage, lines may curve or bend. In the real world, lot lines certainly do. Dictionary definitions show that a "line," in common usage, includes, rather than excludes, lines with curvature. See, e.g., The American Heritage College Dictionary, fourth ed., which defines a line as, among many other things: "[a] degree or circle of longitude or latitude drawn on a map or globe..., [t]he equator, [a] border or boundary...[a] demarcation... [a] contour or outline..., [a] mark used to define a shape or represent a contour...."

Nothing in the Bylaw shakes the conclusion that frontage, as defined, cannot be supplied by a line which is to some degree less than unbending. To read the Bylaw definition to apply only to entirely straight lines would leave many lots, with even the most imperceptible of gentle curves in the lines where the lots meet the street, with no guiding method for measuring and satisfying the frontage requirement of the law. That cannot be the reading intended legislatively. The defendants' insistence on counting as frontage nothing less than a straight line would, if accepted by the court, lead to a strained, if not absurd, result in many instances. A lot which had only a tiny straight stretch to its run along the street, and a gentle curve of great length along the rest, would fail to comply with the minimum frontage requirement. The Bylaw clearly states that frontage must start and end at the intersections of the side lot lines with the front line of a property. The Bylaw assumes, and apparently requires, that all lots have a front lot line and side lot lines. The definition emphasizes the importance of the two end-points that establish the limits of the line which supplies frontage, something which takes place whether the frontage is in whole or in part curved, on the one hand, or entirely straight, on the other.

When interpreting statutes, each word is to be given its ordinary meaning without overemphasizing its effect upon the other terms appearing in the statute, so that the enactment considered as a whole shall constitute a consistent and harmonious statutory provision. *Murphy v. Planning Bd. of Hopkinton*, 70 Mass. App. Ct. 385, 394 (2007) quoting *Commonwealth v. Woods Hole, Martha's Vineyard & Nantucket S.S. Auth.*, 352 Mass. 617, 618 (1967). Giving "linear" its plain meaning within the context of the entire statute requires that the frontage be measured in a way that includes both of the intersections of the front and side lot lines.

The Bylaw defines a "corner lot" as "any lot abutting on two (2) or more streets that are intersecting." Bylaw § 2.1.1.28(e). Lot 2 abuts on two streets, Oak Avenue and Turkey Hill Road. They intersect at, or along, the southeast corner of Lot 2. With Oak Avenue supplying the front lot line, Turkey Hill Road supplies Lot 2's side lot line, and the intersection of those two streets establishes a boundary point limiting the extent of 27 Oak Avenue's frontage. That point lies on the eastern end of the line of frontage, where it "intersects" the southern end of the side line along Turkey Hill Road. The Board's proffered interpretation would exclude this point, and would run counter to the Bylaw definition of "corner lot" as including the intersection of the Oak Avenue frontage line with the Turkey Hill side line. This approach also would exclude the entire thirty-one feet of curved lot line that borders, and forms the connection along and between the two (intersecting) streets. The Board's construction appears to ignore the reality that these two streets do, in a plain and obvious way, "intersect," both on the plan and on the ground.

The purpose of requiring "linear" measurements was not to exclude curved edges of a lot from qualifying as frontage, but to show how to measure to see if there exist dimensionally deficient lots. Lots must be measured using a consistent rubric. Measuring from one intersection of side lot line and front line to the other intersection of the same front line with the other side line, whether the frontage is curved or straight, provides an accurate way to calculate the front dimension. Linear measurement of this sort allows the Town to ensure that lots meet consistent dimensional requirements.

The Board asserts that the measured frontage of a lot can not include any distance measured which lies within the street. This is correct, given the words of

2.1.1.28. Its subpart (d) says: "A building lot shall not include any part of the street." As a result, one cannot measure frontage along Oak Avenue all the way to the meeting point of the extensions of the straight lines of the side and front lines of Lot 2; to do so would position the point of their "intersection" in the middle of the traveled way. Said another way, the Bylaw does not countenance measurement of frontage which extends along the straight 98.00 foot long run of the frontage line, and then projects further in a straight line on the same course to the point of tangency with the rounded corner of Lot 2.

The Bylaw, in § 5.2.5, "Corner Clearance," dealing with the need to maintain sight lines where two streets come together, mandates that the area, within the streets and on the lot, formed by these extensions, for a distance of fifty feet in both directions, be kept open. This section requires that measurements for the clearing should be taken from a "point of intersection, or in the case of a rounded corner, the point of intersection of their tangents. . . ." This section projects the side and front lines to an intersection within the street(s). This point, where these two straight lines come together, cannot, as already said, be the measuring point for the eastern terminus of the frontage line along the Oak Avenue side of Lot 2, for it would encompass, as frontage, a line that in part ran into the traveled way.

Instead, the Bylaw calls for the intersection of side and front lot lines to be located on the curvature of the corner of Lot 2, along the line where the plaintiffs' privately owned land meets the layout of the streets used by the public for travel. In this way, the counting does not pick up any phantom length which lies in the street, something the Bylaw's definition forbids. What the Bylaw calls for, taking into account all of its relevant provisions and its purpose, in the case of a lot, like Lot 2, which lies where two streets come together along a small curve, is that the point which ends the frontage be located midway along that curve. The point which forms the eastern end of Lot 2's frontage lies on the curved line halfway along its 31.42 foot length. The half of the curve heading towards Oak Avenue is part of the frontage of the lot, and the other half, which heads up Turkey Hill Road, is the beginning segment of the sideline of Lot 2. This is the proper reading of the Bylaw's frontage requirement. This reading honors the Bylaw's insistence that frontage be measured along a single street right-of-way; the frontage line ends and the side street's line begins at this single point, so no more than one street

provides the frontage. This reading leaves Lot 2 with a frontage of 113.71 feet, well more than the 100 feet required.

At argument, the court considered with counsel the possibility of another approach, namely drawing a straight line to connect, across Lot 2, the two termini of the straight lines alongside Oak Avenue and Turkey Hill Road, and then dividing that connecting line at its midpoint, assigning half of the connecting line's length to the frontage and half to the side line along Turkey Hill Avenue. This alternative is not consistent with the definitions and purpose of the Bylaw, because it measures along an artificially created line that runs within the interior of the Lot, and so the court declines to read the Bylaw in this fashion. But even this method would appear plainly to supply more than enough frontage to make up the two feet by which the 98 foot straight line along Oak Avenue falls short of 100 feet.

On this summary judgment record, as a matter of law, the court rules that 27 Oak Avenue's total frontage measures 113.71 feet, and satisfies the Bylaw's dimensional requirement for frontage. The defendants should not have determined that Lot 2 lacks sufficient frontage.

Measuring the Width of Lots Bordered by Multiple Rights-of-Way

That is not the end of the court's inquiry, however. The defendants assigned a separate reason for the denial of the requested building permit for Lot 1B: that Lot 2, improved with the residential structure, lacks the lot width required by the Bylaw.

The Board upheld the inspector's denial of the Cronins' building permit application on the alternative grounds that 27 Oak Avenue did not comply with the minimum width requirements as stated in Bylaw §§ 2.1.1.28 and 5.1.2.1. These two sections require a minimum lot width of 175 feet measured between the side lot lines, and passing through the nearest point of the primary building. *Id.* "[N]o building shall be constructed on a lot having ... less width than the Required Width Through Building, specified in the following table [175 feet]." Bylaw § 5.2.1.1. "Lot width is the minimum distance between the side lot lines of the lot measured on any line parallel to a line joining the intersection of the side lot line with the right-of-way at any point between said intersection and the nearest point of the principal building and the right-of-way." Bylaw § 2.1.1.28(b).

This definition applies without much parsing or thought where there is a four-sided lot that has frontage on a single right-of-way, and only two points where the two side lot lines meet the only right-of-way. The Bylaw must have meaning, beyond this obvious example, in cases like that now before the court; the Bylaw must be interpreted as well in cases in which the building lot bounds on two rights-of-way, as where there is a corner lot, or even when the lot is bordered by two parallel streets.

The lot now in question, 27 Oak Avenue, is an irregularly shaped corner lot bordered by two rights-of-ways, and has multiple lot lines, several of which do not run alongside either of the streets, and which might thus qualify as side lot lines. Lot 2, we know, has its frontage along Oak Avenue. It cannot have more than one frontage, and plaintiffs do not contend, for purposes of understanding the lot width requirements, that it does. Lot 2 also has two lines which intersect with the frontage line, as determined by the court: the line running along Turkey Hill Road to the midpoint of the curve where Turkey Hill Road and Oak Avenue meet is the first. The second line is that which extends down to Oak Avenue and is the eastern sideline of the five-foot strip through which the sewer connection lines run. These two lines, at a minimum, are side lines of Lot 2.

Plaintiff come up short, however, when they try to show how the distances between these sidelines should be measured to prove Lot 2's compliance with the Bylaw's lot width regulation. Plaintiffs offer alternative interpretations of the Bylaw's lot width requirement, and their claimed interpretations are displayed on a marked plan in the record, prepared by surveyor Stanley R. Dillis, a copy of which accompanies this Decision as an exhibit. This plan illustrates plaintiffs' contention that Lot 2 meets the "minimum lot width through building requirement" because it is possible to draw straight lines, shown on the plan, through or touching the Lot 2 dwelling which exceed 175 feet in length.

Plaintiffs' argument in this respect fails as a matter of law, given the obvious layout of Lot 2, and the words of the relevant Bylaw provisions. The plan they offer proves the wrong point. First and foremost in the lot width definition is that it is the "minimum distance between the side lot lines of the lot" (emphasis supplied). It is on this threshold requirement that the plaintiffs' argument founders. The interpretation proffered by the plaintiffs, depicted in the Dillis exhibit, may well

show a straight line running from one side line to another side line, a straight line which is long enough to meet the 175 minimum applicable to Lot 2 under the Bylaw. The difficulty is that the distance of this line, just a fraction of an inch above the 175 foot required, is not the minimum distance connecting the side lot lines of Lot 2.

Lot 2, as already established, has as one of its side lines the line running along the side of Turkey Hill Road, from Lot 1B (where it meets Turkey Hill Road) southerly to the midpoint of the curve at the place where Turkey Hill Road and Oak Avenue come together. This boundary of Lot 2 is assuredly one of its side lines. There may be others, but this sideline has an intersection with a "right-of-way," Oak Avenue, at the midpoint of the curve. That intersection is ignored in the plaintiffs' rendition of how Lot 2 might comply with the lot width regulation. The plaintiffs' proffered lot width exhibit does not place the parallel lines at the correct alignment. The lines must be drawn to show not the maximum distance between the side lot lines, as the exhibit strains to do, but rather the minimum distance. The minimum distance between the side lot lines lies in the front yard of Lot 2, relative to the building on it, which faces and has its address on Oak Avenue. The minimum distance between the side lot lines of Lot 2 is the length along a line which is the full extension of the line on the exhibit, parallel to Oak Avenue, marked on the exhibit as "40' zoning setback." The length of this line is not given on the exhibit, but there can be no dispute that it is materially shorter than the line proposed by plaintiffs, which only barely measures 175 feet. There can be no doubt that the minimum distance measured between the side lot lines on a line parallel to Oak Avenue, fails to meet the 175 foot minimum the Bylaw mandates.

The correct lot width measurement is not the one which follows from the effort by plaintiffs to find any one possible line with a length of 175 feet which will somehow fit between two points along any two lines which might constitute side lines. This attempt by plaintiffs flies in the face of the Bylaw, which imposes a minimum lot width. Plaintiffs struggle to maximize the line they use to demonstrate compliance, but in doing so they ignore the fundamental purpose of this dimensional requirement, which is that the lot width not be any less than the minimum distance established in the Bylaw.

A line certainly exists which runs between the midpoint on the curve (where the Turkey Hill Road sideline intersects with Oak Avenue) and the westernmost point on the frontage line along Oak Avenue, at the five foot wide extension of Lot 1B (where the western sideline of Lot 2 intersects with Oak Avenue). Any and all lines drawn parallel to this one, and lying between it and the nearest point of the building on Lot 2, surely cannot measure anywhere close to the necessary 175 feet. (The minimum lot width measurement must be taken along a line--the shortest line--that lies "parallel to a line joining the intersection of the side lot lines with the right-of-way at any point between said intersection and the nearest point of the principal building and the right-of-way line.") This is why Lot 2 as now configured fails to meet the minimum lot width requirement--because the width of the lot in what is, by any measure, the front yard of Lot 2 comes up very much short of 175 feet.

From this conclusion, it follows that the inspector and the Board correctly determined that the lot width of Lot 2 violates the Bylaw. The Town appropriately concedes that, prior to the reconfiguration of the property involved, to benefit and provide the sewer connection leg to the New Lot, 27 Oak Avenue's width, though less than required under the Bylaw, had been protected as a matter of prior nonconformity by G. L. c. 40A, § 6. See *Rourke v. Rothman*, 448 Mass. 190, 197 (2007) quoting *Adamowicz v. Ipswich*, 395 Mass. 757, 763 (1985). The defendants correctly assert, however, that the conveyance from the developed Lot 2 to the vacant Lot 1B of the five-foot sewer extension reduced the width of Lot 2, and increased 27 Oak Avenue's noncompliance with the Town's dimensional zoning regulations. And this leads to a situation where, in a manner prohibited by the Bylaw and by general principles of zoning, a previously nonconforming lot improved with a building has been changed in a way that makes it not compliant with the Bylaw, and which, as a matter of objective measurement of the width of the lot, increases the lot's non-conformance. See Bylaw § 5.1.6.1: "No lot on which a building is located... shall be reduced or changed in size or shape so that the building or lot fails to comply with lot... width... provisions of this Bylaw, or, if such building or lot already fails to comply with said provisions, such reduction or change would bring about a greater degree of non-compliance with said provisions."

This means, further, that the defendants were within their rights to decide that Lot 1B, though not itself the locus of the lot width deficiency, was not eligible for a building permit for new construction, because Lot 1B was made up of land formerly part of Lot 2, and the land taken from Lot 2 caused it to become less compliant with the lot width requirement of the Bylaw. See *Alley v. Building Inspector of Danvers*, 354 Mass. 6, 7 (1968) (creating a conforming lot by depriving another lot of a characteristic required in a Bylaw was held improper).

Plaintiffs argued this appeal on the basis that Lot 2 as now constituted complies with the relevant dimensional requirements of the Bylaw. On the record submitted, without any dispute of material fact and as matter of law, the court rules that that is not the case. Plaintiffs did not present to the Board, nor to this court, any argument that, notwithstanding the reconfiguration of the lots involved, Lot 2, while deficient under current zoning dimensional regulation, may still be able to receive some protection based on its prior nonconformity, including by way of a special permit or finding under the provisions of Article 7 of the Bylaw or under Section 6 of G.L. c. 40A. That argument could not proceed on this case as pleaded, and certainly not on the record now before the court, which does not show plaintiffs made any request for a special permit of this sort. It is not at all clear that any such special permit could even be available under any circumstances, given the language of Article 7 and Section 6, but this Decision by the court neither addresses or forecloses any such possibility.

After argument, review of the record assembled and submitted pursuant to Mass. R. Civ. P. 56 and Land Court Rule 4, and consideration of the written submissions of the parties, the court determines that the plaintiffs have failed to show that 27 Oak Avenue complies with the Bylaw's dimensional requirements as to lot width. The court rules that the Board correctly denied the plaintiffs' administrative appeal from the denial of their building permit application for Lot 1B. Defendants' motion for summary judgment is GRANTED and plaintiffs' motion for summary judgment is DENIED. Judgment will enter upholding the Decision of the Board.

Judgment accordingly.

By the court. Piper, J.

Dated: October 7, 2009.



**Proposed Hotel Development
1207-1211 Massachusetts Avenue
Traffic Impact and Access Study**

Arlington, Massachusetts

June 2020

Prepared for:

1211 Massachusetts Avenue Realty Trust

1122 Massachusetts Avenue

Arlington, Massachusetts 02472

Prepared by:

BSC Group, Inc.

803 Summer Street

Boston, MA

Contents

Executive Summary	1
1 Introduction.....	2
2 Existing Conditions.....	3
2.1. Study Area	3
2.2. Existing Roadway Conditions.....	3
2.3. Existing Intersection Conditions	3
2.4. Existing Traffic Conditions.....	8
2.5. Motor Vehicle Crash Data	10
2.6. Sight Distance Evaluation.....	11
2.7. Public Transportation.....	12
3 Future Conditions.....	13
3.1. Background Traffic Growth.....	13
3.2. Site Access and Parking.....	15
3.3. Trip Generation.....	15
3.4. Mode Share	16
3.5. Trip Distribution	17
4 Traffic Operations Analysis	21
5 Summary and Conclusions.....	25

List of Figures

Figure 1	Project Location and Study Area	4
Figure 2	Existing Roadway and Intersection Configuration	7
Figure 3	2020 Existing Conditions Peak Hour Traffic Volumes	9
Figure 4	Location of Motor Vehicle Crashes in Study Area	10
Figure 5	2025 No-Build Conditions Peak Hour Traffic Volumes.....	14
Figure 6	Trip Distribution Map	18
Figure 7	Peak Hour Project Generated Traffic Volumes	19
Figure 8	2025 Build Conditions Peak Hour Traffic Volumes.....	20

List of Tables

Table 1	Automatic Traffic Recorder (ATR) Data Summary	8
Table 2	Motor Vehicle Crash Data Summary	11
Table 3	Trip Generation Summary	15
Table 4	Level of Service Designations	21
Table 5	Traffic Operations Analysis Summary – Weekday Morning Peak Hour.....	22
Table 6	Traffic Operations Analysis Summary – Weekday Evening Peak Hour	23

Executive Summary

BSC Group (BSC) has prepared this Traffic Impact and Access Study (TIAS) to evaluate the potential traffic impacts associated with the proposed construction of a 50-key hotel and ancillary restaurant space to be located at 1207 – 1211 Massachusetts Avenue in Arlington, Massachusetts. The existing site contains a 2,500 square foot (sf) Disabled American Veterans (DAV) building, a used car dealership, an automobile service station, and a three-bedroom apartment, which contains 3,031 sf of space. There are currently two curb cuts along Massachusetts Avenue and one curb cut along Clark Street that provide access to the existing uses on the site. The DAV building recently closed and operated similarly to a restaurant. All uses on the existing site will be demolished as part of the Project.

Vehicular access will be provided by a valet operated pick-up/drop-off area with two curb cuts along Massachusetts Avenue. Access to the parking area will be along the east side of Clark Street, on the north side of the site. A total of 24 parking spaces will be provided behind the hotel to serve the future guests and visitors.

The site is in proximity to numerous transit opportunities, including the Massachusetts Bay Transportation Authority (MBTA) #77 and #79 bus routes and is located within a few miles of the MBTA Red Line at Alewife Station.

This study includes a review of existing traffic and roadway conditions in the vicinity of the project site, as well as a review of the motor vehicle crash history at study area intersections. This report identifies background traffic growth for study area roadways, estimates additional traffic generated by the industrial park, and evaluates potential traffic impacts due to Project-generated traffic. The study shows the following:

- The proposed Project is expected to generate approximately 52 vehicle trips during the weekday morning peak hour and 57 vehicle trips during the weekday afternoon peak hour. When compared to the existing uses on the site, this results in a net increase of 18 trips during the weekday morning peak hour and 23 trips during the weekday evening peak hour.
- Compared to the No-Build condition, the study area intersections serving the Project are expected to operate at the same LOS with the addition of the expected Project-generated traffic. No additional mitigation or capacity enhancements are necessary at the study intersections or on the surrounding transportation infrastructure to accommodate the Project.
- Both required stopping sight distance and recommended intersection sight distances are met at both driveway locations.
- There are safety issues at the intersection of Massachusetts Avenue at Appleton Street and Appleton Place based on the MassDOT crash data. A fatal collision involving a bicyclist recently occurred at this location.

In conclusion, it is the opinion of BSC Group that the vehicle trips generated by the Project can be accommodated at the study area intersections and roadways without the need for additional mitigation. Further investigation into the safety issues throughout the study area should be considered by the Town of Arlington.

1 Introduction

BSC Group (BSC) has prepared this Traffic Impact and Access Study (TIAS) to evaluate the potential traffic impacts associated with the proposed construction of a 50-key hotel with ancillary restaurant uses on the first floor to be located at 1207-1211 Massachusetts Avenue in Arlington, Massachusetts.

This study includes a review of existing traffic and roadway conditions in the vicinity of the project site and the motor vehicle crash history at study area intersections. This report identifies background traffic growth for study area roadways, estimates additional traffic generated by the Project, and evaluates potential traffic impacts due to Project-generated traffic.

The Project will consist of the construction of a new 50-room hotel and restaurant at 1211 Massachusetts Avenue. The Project site is located along the north side of Massachusetts Avenue and is adjacent to Clark Street on the west. Vehicular access will be provided by a valet operated pick-up/drop-off area with two curb cuts along Massachusetts Avenue. Access to the parking area will be along the east side of Clark Street, on the north side of the site. A total of 24 parking spaces will be provided behind the hotel to serve the future guests and visitors.

The existing site consists of both 1207 and 1211 Massachusetts Avenue and contains a 2,500 square foot (sf) Disabled American Veterans (DAV) building, a used car dealership, an automobile service station, and a three-bedroom apartment, which contains 3,031 sf. There are currently two curb cuts along Massachusetts Avenue and one curb cut along Clark Street that provide access to the existing uses on the site. The DAV building recently closed and operated similarly to a restaurant. All uses on the existing site will be demolished as part of the Project.

2 Existing Conditions

The study area selected for the Project includes the nearby roadways and intersections expected to be impacted by the development. This section describes the study area roadway and intersections.

2.1. Study Area

The study area for the traffic impact analysis includes the following intersections:

- Massachusetts Avenue at Lowell Street
- Massachusetts Avenue at Clark Street
- Massachusetts Avenue at Appleton Street and Appleton Place
- Massachusetts Avenue at Forest Street and Burton Street

The location of the Project in relation to the surrounding roadway network is shown in Figure 1.

2.2. Existing Roadway Conditions

Massachusetts Avenue is a two-lane arterial roadway under the Town of Arlington jurisdiction that travels in an east-west direction between the Town of Lexington in the west and the City of Cambridge in the east. Throughout the study area, Massachusetts Avenue is designated as State Route 2A.

Massachusetts Avenue consists of a single travel lane and a parking lane in each direction through the study area. Bicycle sharrows are also provided in each direction through the study area. The directions of travel are separated by a double-yellow centerline. Land uses along Massachusetts Avenue primarily consist of commercial uses. Nearby side streets provide access to the adjacent residential neighborhoods on the north and south sides of the corridor. Sidewalks are provided along both sides of the roadway.

2.3. Existing Intersection Conditions

The following describes the geometric conditions and traffic control at the study area intersections. Figure 2 shows the lane geometry and traffic control at the study area intersections.

Massachusetts Avenue at Lowell Street

Lowell Street intersects Massachusetts Avenue from the north to form this three-legged, unsignalized intersection west of the Project site. The Massachusetts Avenue eastbound and westbound approaches consist of single travel lanes in each direction separated by a double-yellow centerline. On-street parking is allowed along both sides of Massachusetts Avenue. The Lowell Street southbound approach intersects Massachusetts Avenue at a severe skewed angle and consists of a single travel lane under STOP-sign control. A crosswalk is provided across the Lowell Street approach. Sidewalks are also provided along both sides of all approaches to the intersection. Land uses around the intersection consist of commercial and residential properties.



Figure 1
 Project Location & Study Area
 1207 - 1211 Massachusetts Avenue Traffic Impact and Access Study
 Arlington, MA

Massachusetts Avenue at Clark Street

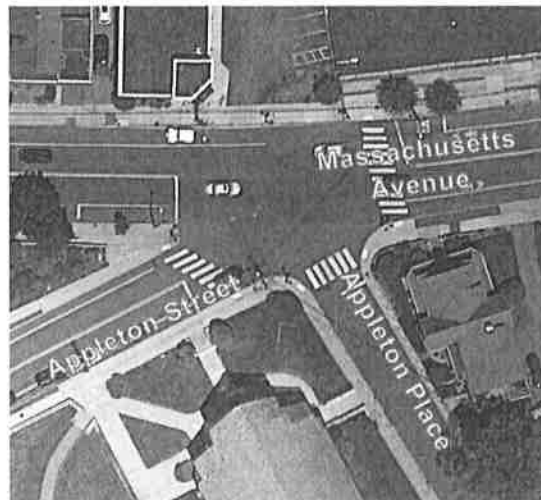
Clark Street intersects Massachusetts Avenue from the north to form this three-legged, unsignalized intersection adjacent to the west side of the Project site. The Massachusetts Avenue eastbound and westbound approaches consist of single travel lanes in each direction separated by a double-yellow centerline. On-street parking is allowed along both sides of Massachusetts Avenue. The Clark Street southbound approach consists of a single travel lane under STOP-sign control. A crosswalk is provided across the Clark Street approach. Sidewalks are also provided along both sides of all approaches to the intersection. Land uses around the intersection consist of the Project site, commercial and residential properties.



Massachusetts Avenue at Lowell Street and Clark Street

Massachusetts Avenue at Appleton Street, Appleton Place, and a Private Driveway

Appleton Street and Appleton Place intersect Massachusetts Avenue from the south and a private driveway intersects Massachusetts Avenue from the north to form this five-legged intersection under STOP control. The intersection is controlled by the flashing signal and a STOP-sign along the Appleton Place approach. The Massachusetts Avenue eastbound and westbound approaches consist of single travel lanes in each direction separated by a double-yellow centerline. On-street parking is allowed along both sides of Massachusetts Avenue. MBTA bus stops are also located along Massachusetts Avenue at the intersection. The Appleton Street northbound approach consists of a single travel lane and is controlled by a red signal indication. The Appleton Place northbound approach consists of a single travel lane and is under STOP-sign control. The driveway southbound approach also consists of a

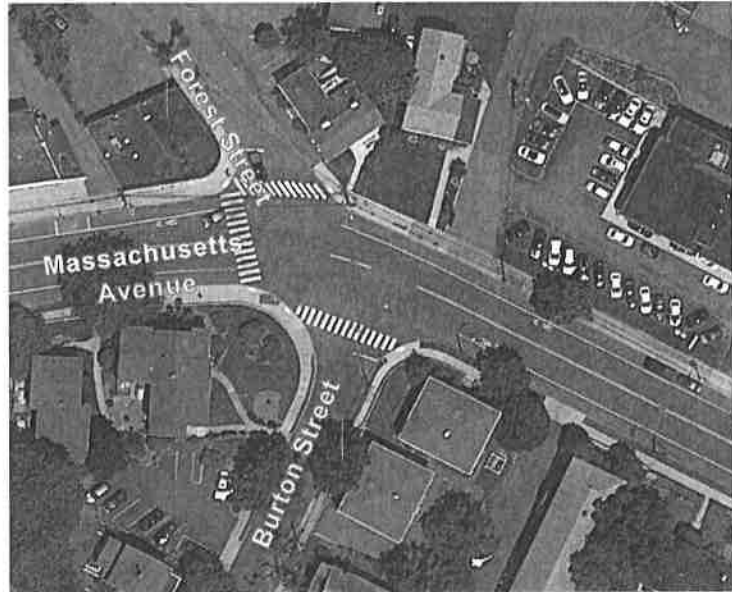


Massachusetts Avenue at Appleton Street, Appleton Place, and a Driveway

single travel lane under STOP control, although a STOP-sign is not provided. Sidewalks are also provided along both sides of all approaches to the intersection. Land uses around the intersection consist of commercial and residential properties.

Massachusetts Avenue at Forest Street, Burton Street, and a Private Driveway

Forest Street and a private driveway intersect Massachusetts Avenue from the north and Burton Street intersects Massachusetts Avenue from the south to form this five-legged intersection under STOP-sign control. The Massachusetts Avenue eastbound and westbound approaches consist of single travel lanes in each direction separated by a double-yellow centerline. On-street parking is allowed along both sides of Massachusetts Avenue. The Forest Street and driveway southbound approaches and the Burton Street northbound approach all consist of single travel lanes and are under STOP-sign control. Sidewalks are also provided along both sides of all approaches to the intersection. Land uses around the intersection consist of commercial and residential properties.



Massachusetts Avenue at Forest Street, Burton Street, and a Driveway

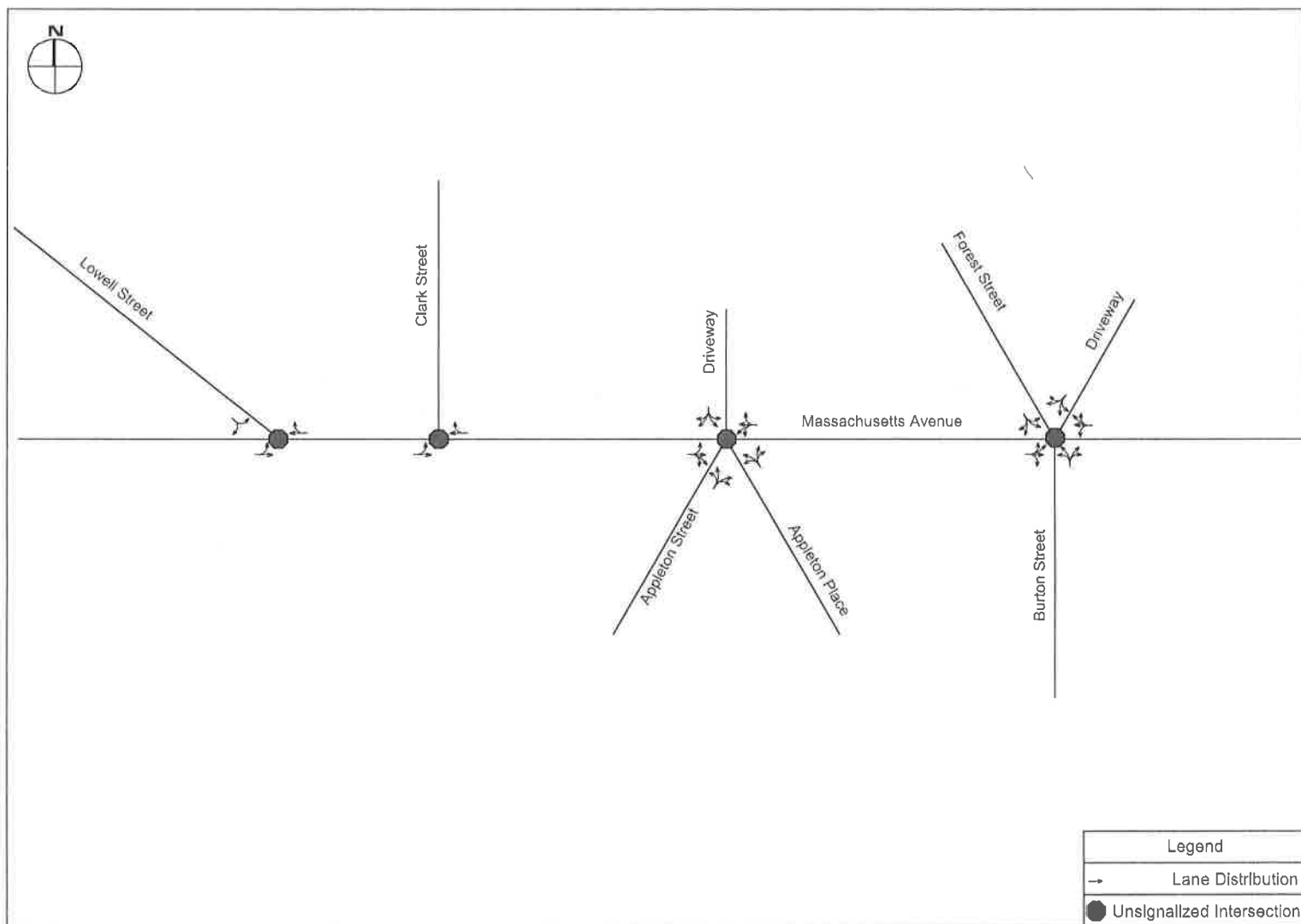


Figure 2
Existing Conditions Geometry and Traffic Control
1207 - 1211 Massachusetts Avenue Traffic Impact and Access Study
Arlington, MA

2.4. Existing Traffic Conditions

Existing traffic data was collected to establish a baseline condition for the analysis of the Project's traffic impacts. Manual turning movement counts (TMCs) were obtained from a traffic study for the nearby proposed Mirak Mill Apartments project for two study area intersections (Massachusetts at Appleton Street/Appleton Place and Massachusetts Avenue at Forest Street/Burton Street) for the weekday morning (7:00 to 9:00 AM) and weekday evening (4:00 to 6:00 PM) peak periods. Due to issues with COVID-19 related traffic fluctuations, new counts could not be conducted at the two remaining intersections. Data was obtained from a traffic study conducted for a residential development located at 19R Park Avenue to estimate the traffic volumes along Lowell Street. Traffic volumes along Clark Street were also estimated based on data provided in the Mirak Mill Apartments traffic study. Automatic traffic recorder (ATRs) data was also obtained from the Mirak Mill Apartments traffic study to estimate daily traffic volumes along Massachusetts Avenue in the vicinity of the Project site.

A factor was applied to the February 2020 TMCs to account for seasonal fluctuations in traffic flow. Based on MassDOT data, traffic volumes along urban principal arterial roadways similar to Massachusetts Avenue are three percent lower in February than during an average month. Traffic volumes on local roadways and collector streets, traffic volumes in February represent average month conditions. To account for seasonal fluctuation and to represent average month conditions, the February TMCs were adjusted upward by 3 percent. The through volumes along Massachusetts Avenue were balanced between the intersections with Appleton Street and Appleton Place, Clark Street, and Lowell Street.

Peak hour traffic volumes are heaviest along Massachusetts Avenue during the peak hours, as this is a major commercial and commuter corridor that provides access between Lexington in the west and Cambridge, Somerville, and Boston in the east. The TMCs are shown in Figure 3 and the ATR data is presented in Table 1. The detailed traffic data is provided in the Appendix.

Table 1 Automatic Traffic Recorder (ATR) Data Summary

	Massachusetts Avenue, east of Burton Street
Weekday Daily Volume¹	13,127
Weekday Morning Peak Hour	
Volume ²	1,052
K Factor ³	8%
Directional Flow ⁴	53% WB
Weekday Evening Peak Hour	
Volume	1,051
K Factor	8%
Directional Flow	57% EB

- 1 vehicles per day
- 2 vehicles per hour
- 3 percentage of daily trips that occur during the peak hour
- 4 percentage of peak hour traffic by direction

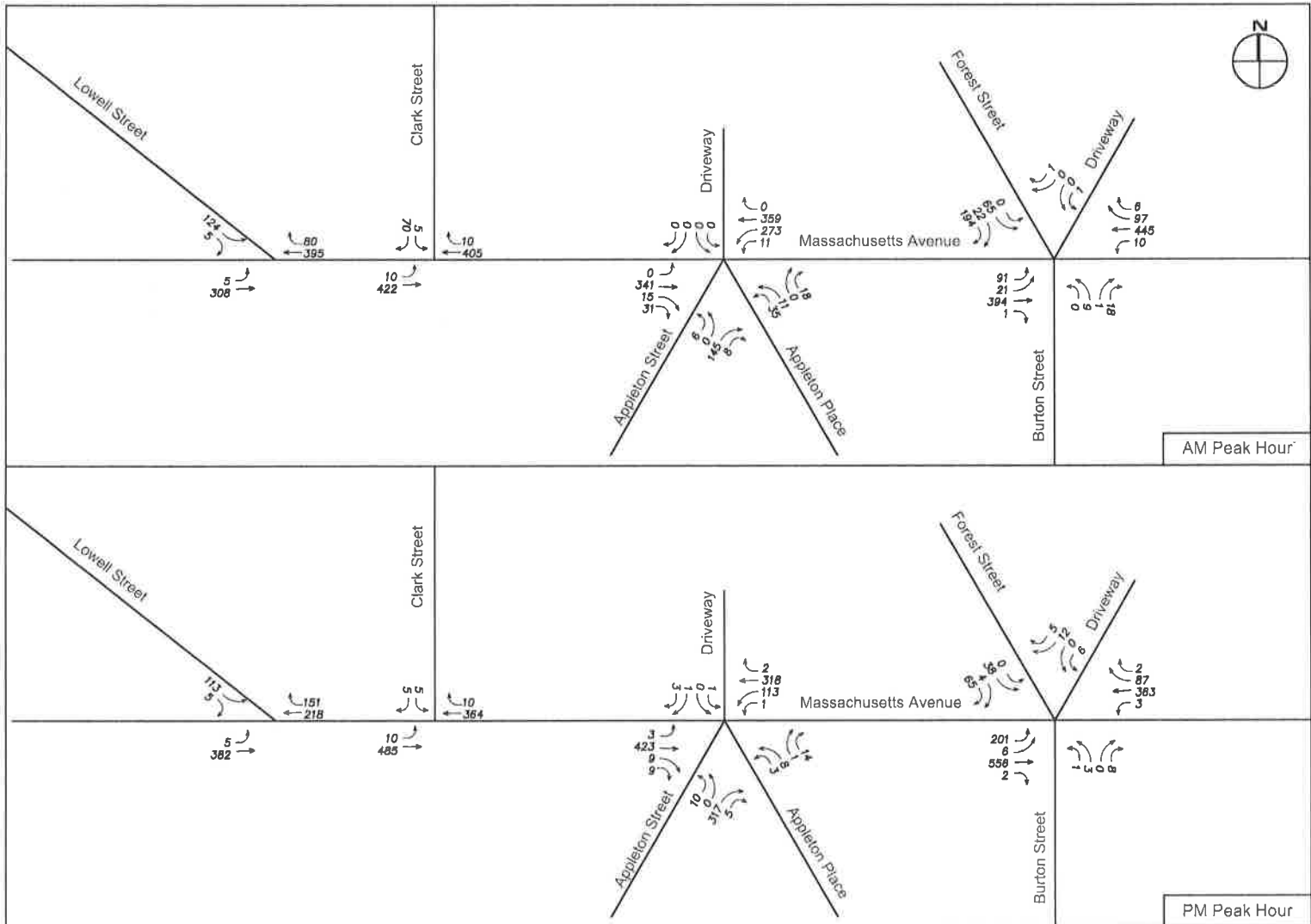
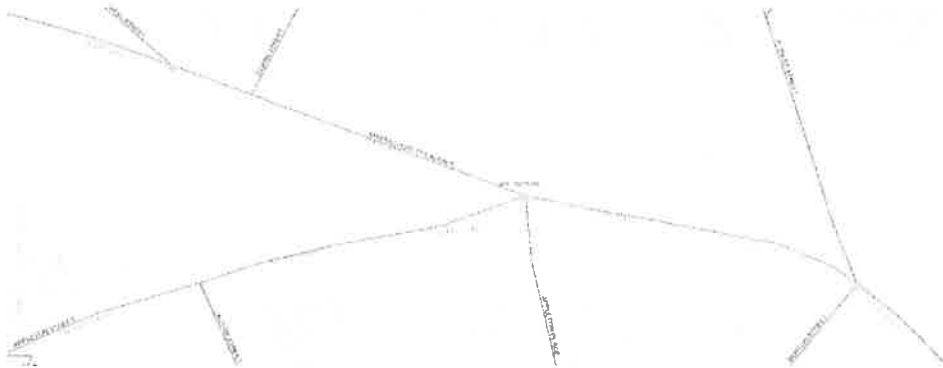


Figure 3
 2020 Existing Conditions Peak Hour Traffic Volumes
 1207 - 1211 Massachusetts Avenue Traffic Impact and Access Study
 Arlington, MA

2.5. Motor Vehicle Crash Data

Motor vehicle crash data were obtained for the Project's study area from the MassDOT crash database for the most recent three-year period for which data is available (2017-2019). The data is used to identify correctable safety issues and crash trends. The current MassDOT average crash rate for unsignalized intersections in District 4 (the MassDOT district in which the Project is located) is 0.57 crashes per million entering vehicles (mev). The average crash rate for signalized intersections in District 4 is 0.73 crashes per mev. Figure 4 displays the location of the motor vehicle crashes (shown as orange circles) and Table 2 presents the motor vehicle crash data for the years 2017-2019.

Figure 4 Location of Motor Vehicle Crashes in Study Area



Based on a review of the motor vehicle crash history at the study area intersections, the crash rates at the intersections of Massachusetts Avenue at Lowell Street and Massachusetts Avenue at Appleton Street and Appleton Place exceed the MassDOT District 4 averages for unsignalized intersections.

Recently, the intersection of Massachusetts Avenue at Appleton Street and Appleton Place experienced a fatal collision involving a bicyclist. While the details of this crash were not available at the time of this study, it is evident that this location has significant safety issues related to bicyclist and motorist conflicts. The awkward geometry, on-street bicycle facilities, flashing signal equipment, and solar glare during the morning and evening may be major factors in the existing safety issues at this location.

Table 2 Motor Vehicle Crash Data Summary

	Mass. Avenue/ Lowell Street	Mass. Avenue/ Clark Street	Mass. Avenue/ Appleton Street/ Appleton Place	Mass. Avenue/ Forest Street/ Burton Street
Total Crashes	7	1	10	10
<i>Year</i>				
2017	2	1	4	2
2018	3	0	0	0
2019	2	0	6	8
<i>Severity</i>				
Property Damage	5	0	9	7
Injury	1	1	0	1
Fatality	0	0	0	0
Unknown	1	0	1	2
<i>Collision Type</i>				
Angle	1	0	5	4
Rear End	2	0	5	5
Sideswipe	3	0	0	0
Single Vehicle Crash	1	0	0	0
Head-on	0	1	0	0
Other	0	0	0	1
<i>Time</i>				
Peak Hours	0	0	2	3
Off-Peak Hours	7	1	8	7
<i>Road Conditions</i>				
Dry	7	1	5	7
Wet/Ice/Snow	0	0	5	3
Other	0	0	0	0
Average Per Year	2.3	0.3	3.3	3.3
Intersection Type	Unsignalized	Unsignalized	Unsignalized	Unsignalized
Calculated Crash Rate ¹	0.59	0.09	0.60	0.54

¹ Crashes per million entering vehicles, as defined by the MassDOT Highway Division

2.6. Sight Distance Evaluation

Sight distance measurements and calculations were conducted at the location of the proposed site driveways along Massachusetts Avenue. An analysis of stopping sight distance (SSD) and intersection sight distance (ISD) confirms that adequate sight distance is provided along Massachusetts Avenue to allow safe maneuvers to and from the site driveways.

Stopping sight distance is the distance required for a vehicle to perceive an object in the roadway, decelerate, and come to a stop before reaching the object. Intersection sight distance is the distance between an approaching vehicle and a side street or driveway to allow a vehicle to safely maneuver through the intersection from the side street or driveway. SSD is a requirement along all roadways to ensure safety is maintained along the length of a given roadway. ISD is a recommended guideline to ensure vehicles traveling through an intersection from a stop condition can easily and comfortably make a turning or through maneuver.

The available sight distance at the driveways exceeds 600 feet in both directions. On-street parking is allowed along this segment of Massachusetts Avenue and parked vehicles may occasionally limit lines of sight from back of the sidewalk at the driveway locations. Vehicular speed data was not collected along Massachusetts Avenue. A design speed of 40 mph was used to calculate sight distance requirements. The required SSD based on a 40 mph approach speed is 305 feet and the recommended ISD based on a 40 mph approach speed is 445 feet.

Based on this evaluation, there is sufficient sight distance to accommodate both SSD and ISD at the proposed site driveways. The driveway has clear lines of sight to the signalized intersection to the east and will operate with acceptable operations based on these lines of sight.

2.7. Public Transportation

Public transportation services are located in proximity to the Project site, offering guests and employees of the future site non-vehicular options for transportation. The Massachusetts Bay Transportation Authority (MBTA) operates several bus lines that travel near the Project site. MBTA bus routes 77 and 79 travel along Massachusetts Avenue between Arlington Heights and Alewife and Harvard Stations, providing connections to the Red Line branch of the MBTA's subway system. MBTA bus route 62 also travels near the Project site along Park Avenue and providing service between Bedford and Alewife Station. The closest bus stops are located along Massachusetts Avenue at the intersection of Appleton Street, east of the site.

3 Future Conditions

Traffic volumes in the study area were projected to the year 2025, which reflects a five-year traffic planning horizon from the year of this study. The future traffic volumes consider both general traffic growth trends in the area and new traffic expected to be generated by major planned and proposed projects in the vicinity of the Project. The 2025 No-Build conditions represent a future scenario that incorporates traffic growth and any planned roadway infrastructure projects that will impact traffic volumes in the study area. The Project impacts are analyzed by estimating the number of vehicular trips expected to be generated, distributing through the study area network, and then adding them to the 2025 No-Build conditions. The 2025 Build conditions represent a future scenario that incorporates the expected Project-generated trips. The following sections describe the development of the future conditions scenarios.

3.1. Background Traffic Growth

A two percent annual growth rate was applied to the existing conditions traffic volumes to develop the future 2025 traffic volumes. The growth rate is consistent with other recent studies conducted for nearby projects. This growth rate reflects a conservative estimate. The Town of Arlington's 2015 Master Plan anticipates a much lower traffic volume growth rate over the next ten years (3.3 percent over a ten year period).

Traffic volumes expected from planned and proposed projects are also incorporated into the future 2025 traffic conditions. As previously mentioned, the Mirak Mill Apartments residential project is proposed to be constructed to the east of the Project site. This project will consist of the demolition of some uses on that site and the construction of 130 residential units. Traffic volumes expected to be generated from this project were obtained from the traffic study and were added to the future 2025 traffic conditions.

The two percent annual growth rate and the expected traffic related to the Mirak Mill Apartments were added to the 2020 Existing conditions peak hour traffic volumes to develop the 2025 No-Build conditions weekday morning and evening peak hour traffic volumes. The 2025 No-Build traffic volumes are shown in Figure 5.

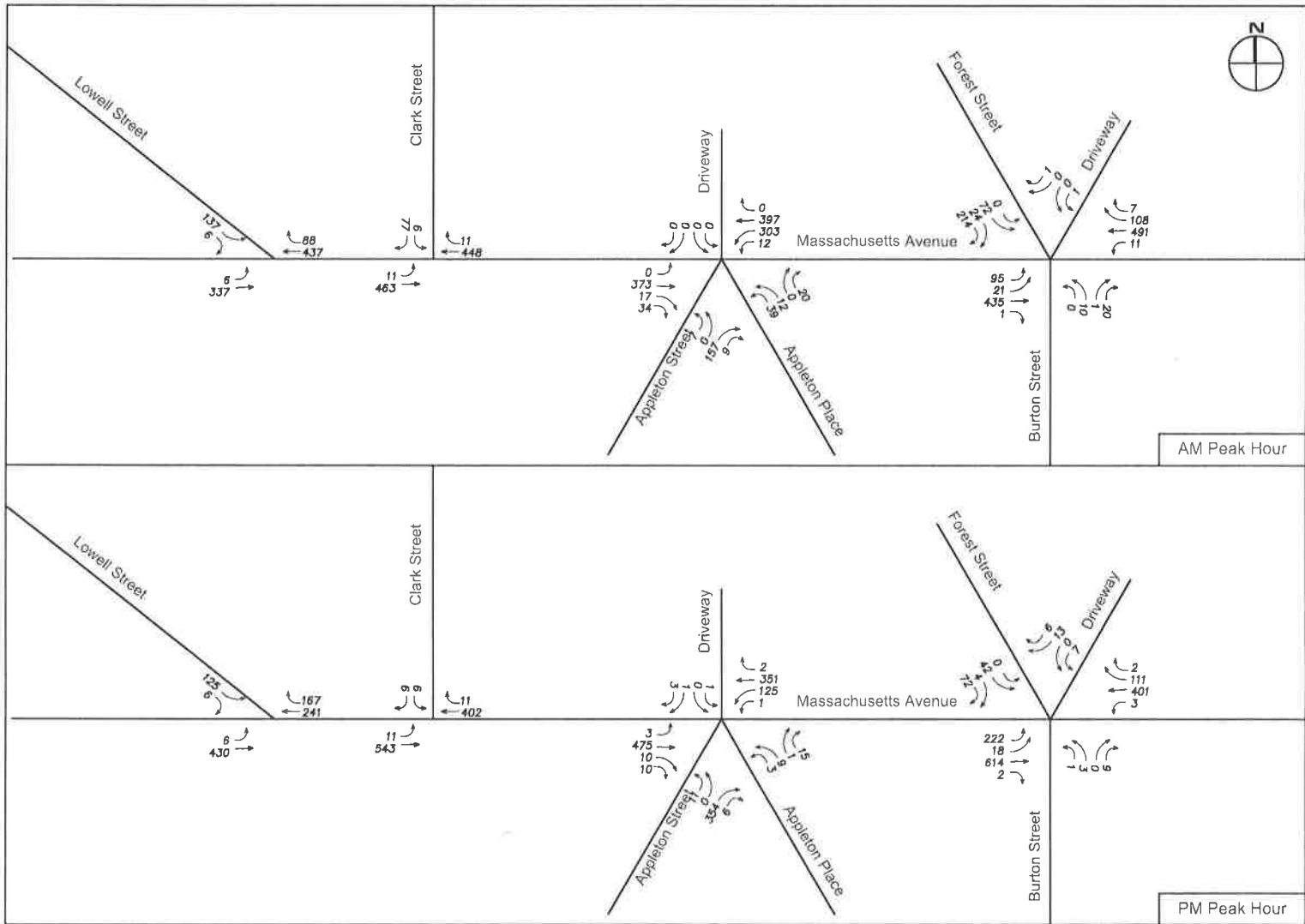


Figure 4
 2025 No-Build Conditions Peak Hour Traffic Volumes
 1207 - 1211 Massachusetts Avenue Traffic Impact and Access Study
 Arlington, MA

3.2. Site Access and Parking

The Project site abuts the north side of Massachusetts Avenue and the east side of Clark Street east of the Arlington Heights neighborhood. The site will be served by a one-way circulating driveway that will serve as a valet pick-up/drop-off for visitors to the hotel. A parking lot will be located behind the hotel and will have access off the east side of Clark Street.

The Project will provide a total of 24 parking spaces for the hotel uses. A tandem-style garage will be located in the rear of the building on the north side of the site and will contain all 24 parking spaces. All parking on the site will be valet and will serve both the hotel and restaurant uses. The Project will not have any spaces for self-parking. On-street parking is allowed along both sides of Massachusetts Avenue. The Project will not change the overall number of available on-street parking spaces.

All loading and trash operations will occur in the rear of the building via the Clark Street curb cut. Deliveries will occur either in the pick-up/drop-off area or in the rear of the building, depending on the anticipated duration. Deliveries and loading operations will be limited to single-unit box trucks and smaller vehicles.

The Project will also provide outdoor bicycle racks for public use along Massachusetts Avenue. The racks will serve guests of the hotel and restaurant. A second bicycle storage facility will be provided on the site for employees that will work on site. The Project will also upgrade all adjacent sidewalks and pedestrian facilities as needed.

3.3. Trip Generation

Trip generation estimates for the Project are based on the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. Trip generation estimates were developed for the proposed 50-room hotel. Estimates are also presented for the existing uses on the site for comparison purposes. Table 3 presents the trip generation for the Project.

Table 3 Trip Generation Summary

	Project Trips			Existing Uses					
					Automobile				
Time Period	Hotel ¹	Restaurant ²	Total	DAV Club ²	Auto Dealership ³	Service Station ⁴	Apartment ⁵	Total	Net Change
<i>AM Peak Hour</i>									
Entering	14	15	29	15	1	3	0	19	+10
Exiting	<u>10</u>	<u>13</u>	<u>23</u>	<u>13</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>15</u>	<u>+8</u>
Total	24	28	52	28	1	4	1	34	+18
<i>PM Peak Hour</i>									
Entering	15	17	32	17	0	3	1	21	+11
Exiting	<u>15</u>	<u>10</u>	<u>25</u>	<u>10</u>	<u>1</u>	<u>2</u>	<u>0</u>	<u>13</u>	<u>+12</u>
Total	30	27	57	27	1	5	1	34	+23

1 Based on ITE Land Use Code (LUC) 310 – Hotel (50 Rooms)

2 Based on ITE LUC 932 – High Turnover Sit Down Restaurant (2,800 sf)

3 Based on ITE LUC 841 – Automobile Sales, Used (264 sf)

4 Based on ITE LUC 942 – Automobile Care Center (1,650 sf)

5 Based on ITE LUC 220 – Multi-Family Housing, Low-Rise (1 unit)

Based on the trip generation estimates, the Project is expected to generate 52 vehicle trips during the weekday morning peak hour and 57 vehicle trips during the weekday evening peak hour. When compared to the existing uses on the site, this results in a net increase of 18 trips during the weekday morning peak hour and 23 trips during the weekday evening peak hour.

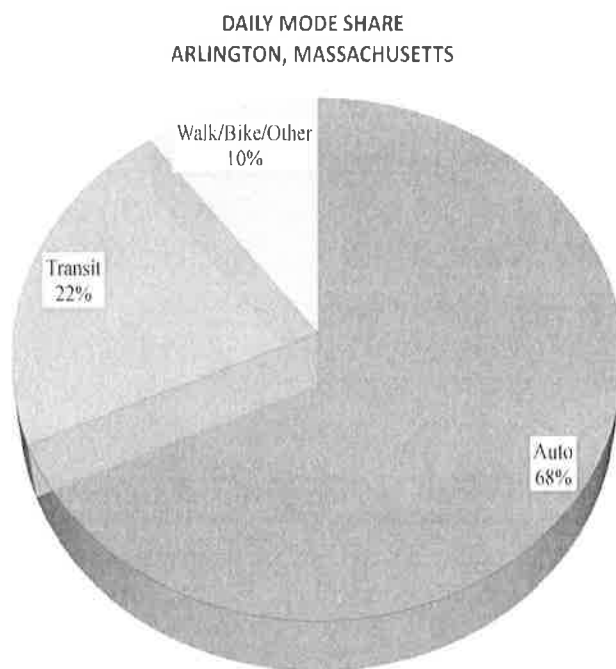
The peak hour trips are typically the most critical because those time periods are when the adjacent roadways experience the highest traffic demands throughout the course of the day. The peak hour increases represent approximately one additional trip every 2-4 minutes.

3.4. Mode Share

The trip generation estimates provided in Table 3 do not consider alternative modes of transportation such as walking, bicycling, and transit usage. Based on the location of the site and the proximity to two highly used MBTA bus routes (Routes #77 and #79), it is expected that a portion of the trips will be made by public transportation. It is also expected that a portion of the hotel-related trips will be made by taxi or ride-hailing service and will not use Clark Street for parking purposes. The following section discusses the mode shares for travel in the vicinity of the Project.

Mode-split data for the census tract in Arlington in which the Project site is located were obtained from the United States Census. The primary modes of travel for the Project are expected to be transit, walk/bicycling, and vehicular usage. The US Census provides travel mode shares over the course of an average weekday for commuting purposes only. However, the mode shares to provide an insight into the availability and convenience of non-vehicular modes of travel. The mode shares for the census tract in which the Project site is located are presented below.

The predominant mode of commuting travel in this area of Arlington is by vehicle (68 percent). Transit



trips account for approximately 22 percent of travel and the remaining 10 percent of trips are made by walking, biking, or other travel modes. As previously stated, the mode shares represent daily commuting trips. It is expected that the hotel and restaurant usage of the Project will include taxi trips and may not exactly reflect commuting patterns. Additionally, the restaurant will serve the hotel guests and residents of the surrounding neighborhoods, allowing for a further reduction in vehicle-based trips. Further, the commuter mode share

percentages do indicate that there are opportunities other than driving for guests of the hotel once they are on-site.

3.5. Trip Distribution

Vehicular trip distribution patterns identify the origins and destinations for trips related to the Project site. Trip distribution patterns for the proposed uses were identified using existing traffic volumes along Massachusetts Avenue. It is assumed that traffic volumes along Massachusetts Avenue will accurately reflect the origins and destinations for trips related to the Project site. Based on the volumes, approximately 60 percent of the trips will be oriented to/from the east and 40 percent will be oriented to/from the west. Approximately 5 percent of the trips oriented to/from the west were assigned to Appleton Street, as it provides convenient access to Park Avenue and Route 2, south of the site. The trip distribution patterns are shown in Figure 6.

The Project-generated trips were assigned to the study area roadways and intersections based on the trip distribution patterns and are presented in Figure 7 for the weekday morning and evening peak hours. The Project-generated trips were then added to the 2025 No-Build conditions traffic volumes to develop the 2025 Build conditions traffic volumes and are shown in Figure 8.

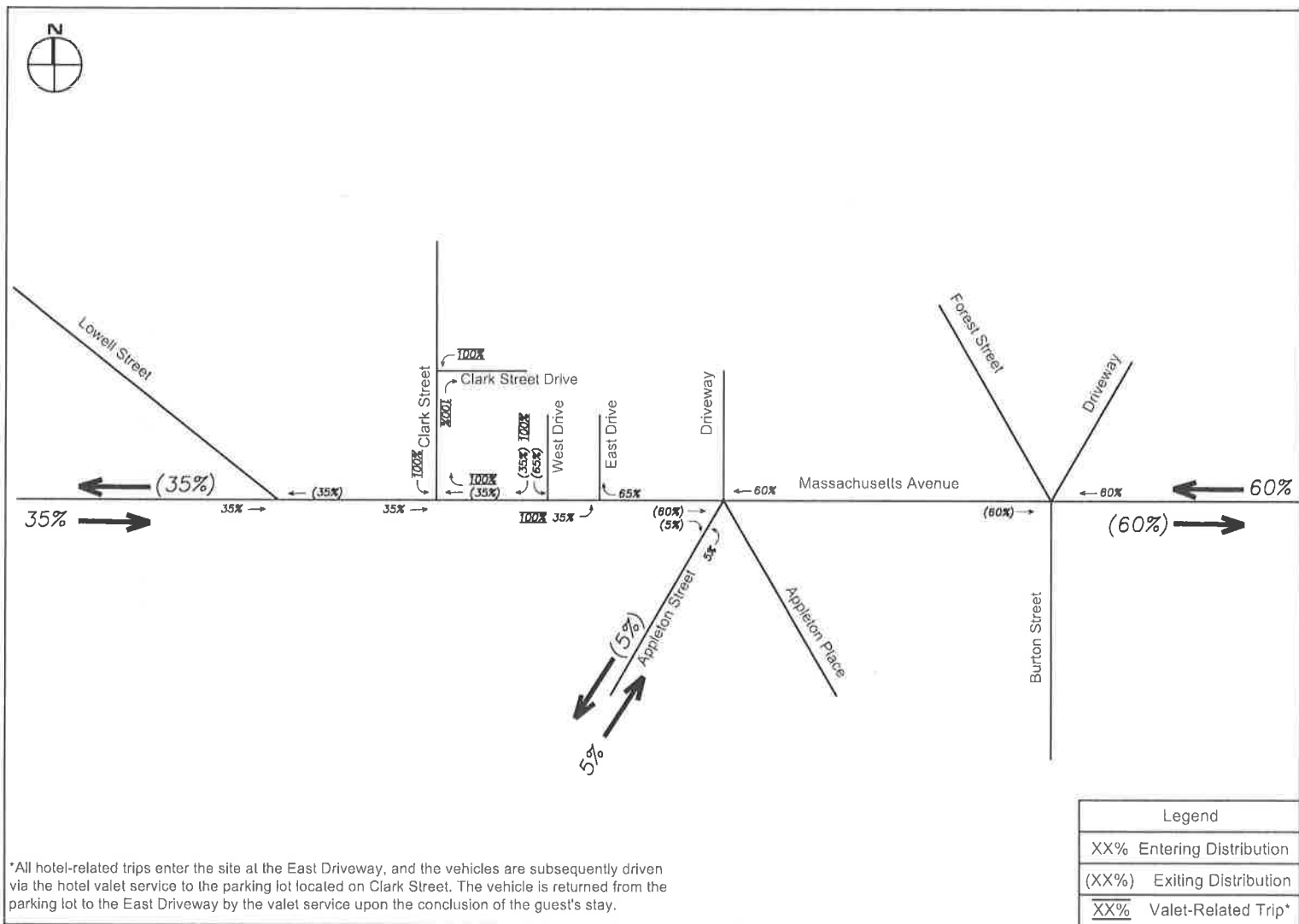


Figure 6
 Project Trip Distribution Map
 1207 - 1211 Massachusetts Avenue Traffic Impact and Access Study
 Arlington, MA

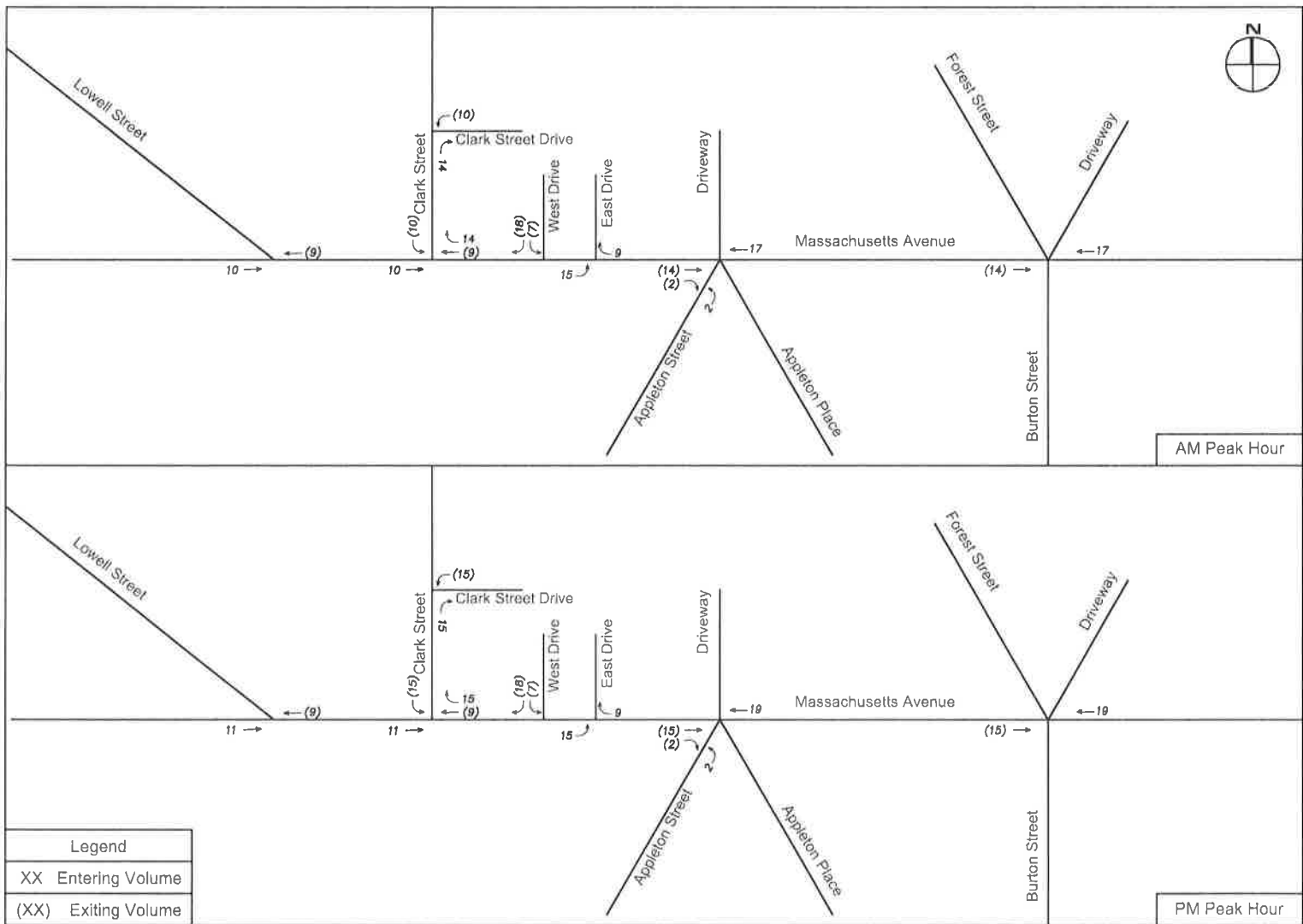


Figure 7
 2025 Project Generated Peak Hour Traffic Volumes
 1207 - 1211 Massachusetts Avenue Traffic Impact and Access Study
 Arlington, MA

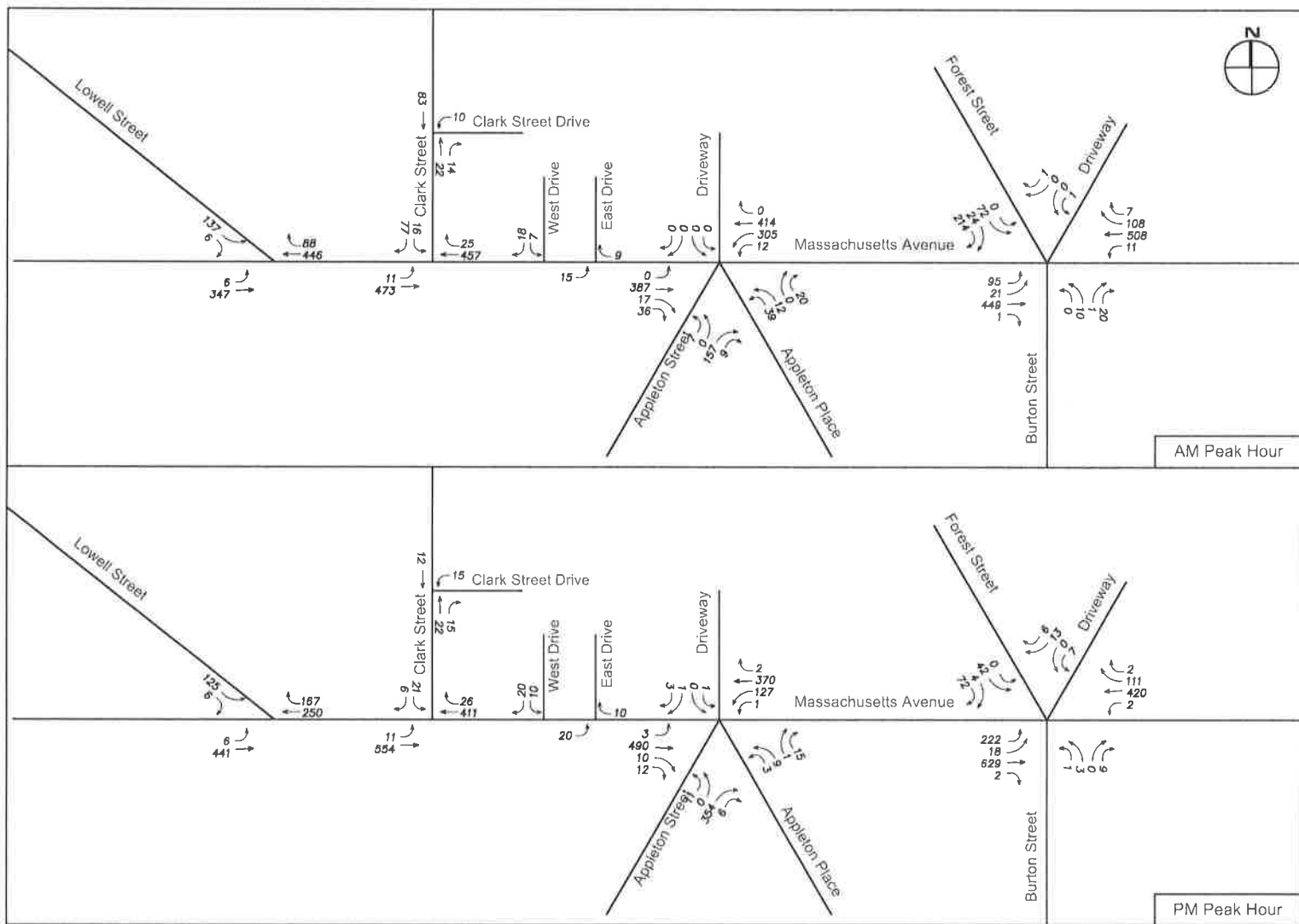


Figure 8
 2025 Build Conditions Peak Hour Traffic Volumes
 1207 - 1211 Massachusetts Avenue Traffic Impact and Access Study
 Arlington, MA

4 Traffic Operations Analysis

To assess the quality of traffic flow, capacity analyses were conducted at the study area intersections for the weekday morning and weekday evening peak hours. Analyses were conducted using the Synchro 10 traffic analysis software, which is based on methods defined in the Highway Capacity Manual (HCM) 2010¹. Operations analyses were conducted for the 2020 Existing, 2025 No-Build, and 2025 Build conditions.

A primary result of capacity analyses is the assignment of a Level of Service (LOS) to traffic facilities under various traffic flow conditions. Six Levels of Services are defined for each type of facility. They are given letter designations from A to F, with LOS A representing the best operating conditions with little delay and LOS F representing the worst, with the most delay.

The existing conditions operations analysis was calibrated to reflect traffic conditions observed in the field. Typically, the Synchro 10 and HCM methodologies use default values for various inputs, such as critical gaps. The critical gap is the minimum amount of time between consecutive vehicles traveling along a main line, such as Massachusetts Avenue, for a motorist along the side street to comfortably make a turning or crossing maneuver. The default values are typically higher than actual field observations. Some of these factors were reduced to better reflect actual operations and observed delays and queues.

The average delay per vehicle approaching an intersection is used to quantify the LOS at a particular intersection. The LOS designations are defined below in Table 4. Average delay measures the mean stopped delay experienced by vehicles entering an intersection during the analysis period. Average delay is measured for each individual turning movement that must yield the right of way. The vehicular queues and volume-to-capacity ratios (v/c) are also presented as part of the traffic operations analysis. The 95th percentile queues represent the maximum back of queue during the peak hour. The v/c ratios reflect the percentage of the overall operating capacity of a movement that the traffic volumes consume. A v/c ratio below 1.0 indicates that there is additional capacity that could be used if traffic volumes increase.

Table 4 Level of Service Designations

Level of Service	Average Delay (seconds/vehicle)	
	Unsignalized	Signalized
A	0.0 - 10.0	0.0 - 10.0
B	>10.0 - 15.0	>10.0 - 20.0
C	>15.0 - 25.0	>20.0 - 35.0
D	>25.0 - 35.0	>35.0 - 55.0
E	>35.0 - 50.0	>55.0 - 80.0
F	>50.0	>80.0

Source: Transportation Research Board, *Highway Capacity Manual*, National Research Council, 2010.

Tables 5 and 6 show the operating conditions of the study intersections during the weekday morning and weekday evening peak hours for the three scenarios analyzed.

¹ *Highway Capacity Manual* 2010; Transportation Research Board; Washington, DC; 2010.

Table 5 Traffic Operations Analysis Summary – Weekday Morning Peak Hour

	2020 Existing Conditions				2025 No-Build Conditions				2025 Build Conditions			
	Delay	LOS	v/c	95th queue	Delay	LOS	v/c	95th queue	Delay	LOS	v/c	95th queue
UNSIGNALIZED INTERSECTIONS												
Massachusetts Avenue/Lowell Street												
Massachusetts Avenue EB L/T	0.2	A	0.01	1	0.3	A	0.01	1	0.3	A	0.01	1
Massachusetts Avenue WB T/R	0.0	A	0.33	0	0.0	A	0.37	0	0.0	A	0.37	0
Lowell Street SB L/R	17.9	C	0.34	36	20.9	C	0.41	49	21.6	C	0.42	51
Massachusetts Avenue/Clark Street												
Massachusetts Avenue EB L/T	0.4	A	0.01	1	0.4	A	0.02	1	0.4	A	0.02	1
Massachusetts Avenue WB T/R	0.00	A	0.29	0	0.0	A	0.32	0	0.0	A	0.34	0
Clark Street SB L/R	11.6	B	0.13	11	12.3	B	0.16	14	13.5	B	0.19	18
Massachusetts Avenue/Appleton Street/ Appleton Place/Commercial Driveway												
Massachusetts Avenue EB L/T/R	0.0	A	0.00	0	0.0	A	0.00	0	0.0	A	0.00	0
Massachusetts Avenue WB L/T/R	9.0	A	0.40	49	10.6	B	0.46	62	11.0	B	0.47	64
Appleton Street NB L/T/R	21.2	C	0.49	66	26.2	D	0.58	89	29.5	D	0.63	102
Appleton Place NB L/T/R	17.4	C	0.37	42	19.5	C	0.43	53	19.6	C	0.43	54
Driveway SB L/T/R	47.5	E	0.01	1	>50.0	F	0.01	1	>50.0	F	0.02	1
Massachusetts Avenue/Forest Street/ Burton Street/Commercial Driveway												
Massachusetts Avenue EB L/T/R	3.1	A	0.12	10	3.4	A	0.13	12	3.4	A	0.14	12
Massachusetts Avenue WB L/T/R	0.3	A	0.01	1	0.3	A	0.01	1	0.3	A	0.01	1
Burton Street NB L/T/R	15.7	C	0.16	14	17.6	C	0.20	18	18.1	C	0.21	19
Forest Street SB L/T/R	>50.0	F	0.88	214	>50.0	F	>1.00	354	>50.0	F	>1.00	374
Driveway SB L/T/R	13.6	B	0.02	1	14.6	B	0.02	2	14.9	B	0.02	2
Massachusetts Avenue/West Driveway												
Massachusetts Avenue EB T									0.0	A	0.38	0
Massachusetts Avenue WB T									0.0	A	0.32	0
West Driveway SB L/R									13.2	B	0.07	6
Massachusetts Avenue/East Driveway												
Massachusetts Avenue EB L/T									0.7	A	0.03	2
Massachusetts Avenue WB T/R									0.0	A	0.33	0
Clark Street/Driveway												
Clark Street NB T/R									0.0	A	0.02	0
Clark Street SB L/T									0.0	A	0.00	0
Driveway WB L/R									9.2	A	0.02	1

Table 6 Traffic Operations Analysis Summary – Weekday Evening Peak Hour

	2020 Existing Conditions				2025 No-Build Conditions				2025 Build Conditions			
	Delay	LOS	v/c	95th queue	Delay	LOS	v/c	95th queue	Delay	LOS	v/c	95th queue
UNSIGNALIZED INTERSECTIONS												
Massachusetts Avenue/Lowell Street												
Massachusetts Avenue EB L/T	0.2	A	0.01	0	0.2	A	0.01	1	0.2	A	0.01	1
Massachusetts Avenue WB T/R	0.0	A	0.26	0	0.0	A	0.29	0	0.0	A	0.29	0
Lowell Street SB L/R	16.1	C	0.28	29	18.6	C	0.35	39	19.1	C	0.36	40
Massachusetts Avenue/Clark Street												
Massachusetts Avenue EB L/T	0.3	A	0.01	1	0.4	A	0.01	1	0.4	A	0.01	1
Massachusetts Avenue WB T/R	0.0	A	0.26	0	0.0	A	0.29	0	0.0	A	0.31	0
Clark Street SB L/R	13.0	B	0.02	2	14.0	B	0.03	3	16.9	C	0.09	7
Massachusetts Avenue/Appleton Street/ Appleton Place/Commercial Driveway												
Massachusetts Avenue EB L/T/R	0.1	A	0.00	0	0.1	A	0.00	0	0.1	A	0.00	0
Massachusetts Avenue WB L/T/R	3.3	A	0.12	10	3.6	A	0.14	12	3.6	A	0.14	12
Appleton Street NB L/T/R	17.7	C	0.58	95	22.8	C	0.69	138	24.0	C	0.71	145
Appleton Place NB L/T/R	10.0	B	0.05	4	10.3	B	0.06	5	10.3	B	0.06	5
Driveway SB L/T/R	18.3	C	0.03	2	23.0	C	0.04	3	24.3	C	0.05	4
Massachusetts Avenue/Forest Street/ Burton Street/Commercial Driveway												
Massachusetts Avenue EB L/T/R	4.9	A	0.22	21	5.7	A	0.25	25	5.9	A	0.25	25
Massachusetts Avenue WB L/T/R	0.1	A	0.00	0	0.1	A	0.00	0	0.1	A	0.00	0
Burton Street NB L/T/R	17.1	C	0.06	5	19.1	C	0.08	6	19.7	C	0.08	7
Forest Street SB L/T/R	23.1	C	0.40	47	31.4	D	0.53	72	33.7	D	0.55	76
Driveway SB L/T/R	11.9	B	0.06	5	12.9	B	0.08	7	12.9	B	0.08	7
Massachusetts Avenue/West Driveway												
Massachusetts Avenue EB T									0.0	A	0.45	0
Massachusetts Avenue WB T									0.0	A	0.29	0
West Driveway SB L/R									13.3	B	0.07	6
Massachusetts Avenue/East Driveway												
Massachusetts Avenue EB L/T									0.7	A	0.03	2
Massachusetts Avenue WB T/R									0.0	A	0.30	0
Clark Street/Driveway												
Clark Street NB T/R									0.0	A	0.02	0
Clark Street SB L/T									0.0	A	0.00	0
Driveway WB L/R									8.8	A	0.02	1

As shown in Tables 5 and 6, most movements within the study area operate at LOS D or better during the weekday morning peak hour and LOS C or better during the weekday evening peak hour. The Forest Street southbound approach to Massachusetts Avenue operates at LOS F during the weekday morning peak hour and is expected to operate at LOS D during the weekday evening peak hour under the future conditions.

Movements at Clark Street and Lowell Street are expected to operate at LOS C or better during the peak periods, with minimal queuing. These movements also operate within the available capacity of the intersection.

The Project is not expected to have any significant impact on delays of queuing throughout the study area. The Project will increase activity along the site frontage with Massachusetts Avenue and at the Clark Street intersection but will not require additional capacity for safe and efficient operations.

Based on the operations analysis, the existing transportation infrastructure has sufficient capacity to accommodate the Project and no mitigation is necessary.

5 Summary and Conclusions

This Traffic Impact and Access Study has been prepared for the proposed hotel to be located at 1207-1211 Massachusetts Avenue in Arlington, Massachusetts. The Project will consist of the demolition of the existing uses on the site and the construction of a 50-key hotel with ancillary restaurant uses. Access to the site will be provided by a valet-operated pick-up/drop-off area along Massachusetts Avenue and by a driveway that will serve a 24-space tandem-style parking lot off of Clark Street.

Using standard industry practices, this Traffic Impact and Access Study has reviewed existing traffic and roadway conditions in the vicinity of the site; identified specific developments and determined background traffic growth for the study area; and estimated and distributed the additional vehicular traffic that will be generated by the Project.

This study has shown that:

- The proposed Project is expected to generate approximately 52 vehicle trips during the weekday morning peak hour and 57 vehicle trips during the weekday afternoon peak hour. When compared to the existing uses on the site, this results in a net increase of 18 trips during the weekday morning peak hour and 23 trips during the weekday evening peak hour.
- Compared to the No-Build condition, the study area intersections serving the Project are expected to operate at the same LOS with the addition of the expected Project-generated traffic. No additional mitigation or capacity enhancements are necessary at the study intersections or on the surrounding transportation infrastructure to accommodate the Project.
- Both required stopping sight distance and recommended intersection sight distances are met at both driveway locations.
- There are safety issues at the intersection of Massachusetts Avenue at Appleton Street and Appleton Place based on the MassDOT crash data and a recent fatal collision involving a bicyclist.

In conclusion, it is the opinion of BSC Group that the vehicle trips generated by the Project can be accommodated at the study area intersections and roadways without the need for additional mitigation. Further investigation into the safety issues throughout the study area should be considered by the Town of Arlington.

Technical Appendix

Traffic Count Data

Motor Vehicle Crash Data

Traffic Operations Analysis

Traffic Count Data



Massachusetts Avenue
west of Pine Court
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File # 207450 ATR A

Count Date: Tuesday, February 4, 2020
Direction: EB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total	PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	5	2	0	7	12:00 PM	119	6	0	125
12:15 AM	6	1	0	7	12:15 PM	111	6	0	117
12:30 AM	0	2	2	4	12:30 PM	135	6	0	141
12:45 AM	4	2	0	6	12:45 PM	45	6	0	51
1:00 AM	1	1	0	2	1:00 PM	1	1	0	2
1:15 AM	4	0	0	4	1:15 PM	2	0	0	2
1:30 AM	0	0	0	0	1:30 PM	1	4	0	5
1:45 AM	1	1	0	2	1:45 PM	0	2	0	2
2:00 AM	1	0	0	1	2:00 PM	0	2	0	2
2:15 AM	2	0	0	2	2:15 PM	0	3	0	3
2:30 AM	0	0	0	0	2:30 PM	15	5	0	20
2:45 AM	1	1	0	2	2:45 PM	105	4	0	109
3:00 AM	0	0	0	0	3:00 PM	114	2	1	117
3:15 AM	0	0	0	0	3:15 PM	133	2	0	135
3:30 AM	2	0	0	2	3:30 PM	123	6	0	129
3:45 AM	3	1	1	5	3:45 PM	125	2	1	128
4:00 AM	1	0	0	1	4:00 PM	124	4	0	128
4:15 AM	3	0	1	4	4:15 PM	118	3	0	121
4:30 AM	9	1	0	10	4:30 PM	128	1	1	130
4:45 AM	4	1	0	5	4:45 PM	144	3	0	147
5:00 AM	17	1	0	18	5:00 PM	124	3	0	127
5:15 AM	16	3	0	19	5:15 PM	148	3	0	151
5:30 AM	15	1	0	16	5:30 PM	160	2	0	162
5:45 AM	17	5	0	22	5:45 PM	143	2	0	145
6:00 AM	30	2	0	32	6:00 PM	131	3	0	134
6:15 AM	55	3	2	60	6:15 PM	133	2	0	135
6:30 AM	82	4	2	88	6:30 PM	138	1	0	139
6:45 AM	102	6	0	108	6:45 PM	115	4	0	119
7:00 AM	101	11	2	114	7:00 PM	100	4	0	104
7:15 AM	110	4	2	116	7:15 PM	84	1	0	85
7:30 AM	110	11	1	122	7:30 PM	75	3	0	78
7:45 AM	131	10	1	142	7:45 PM	61	1	0	62
8:00 AM	102	7	0	109	8:00 PM	66	4	0	70
8:15 AM	99	9	1	109	8:15 PM	52	1	0	53
8:30 AM	116	6	0	122	8:30 PM	59	2	0	61
8:45 AM	113	7	0	120	8:45 PM	44	4	0	48
9:00 AM	90	8	0	98	9:00 PM	44	3	0	47
9:15 AM	116	5	0	121	9:15 PM	40	4	0	44
9:30 AM	87	6	1	94	9:30 PM	30	3	0	33
9:45 AM	106	5	0	111	9:45 PM	24	0	0	24
10:00 AM	89	8	0	97	10:00 PM	23	4	0	27
10:15 AM	73	5	1	79	10:15 PM	26	2	0	28
10:30 AM	108	14	1	123	10:30 PM	20	1	0	21
10:45 AM	90	8	0	98	10:45 PM	14	2	0	16
11:00 AM	84	4	0	88	11:00 PM	9	2	0	11
11:15 AM	97	9	0	106	11:15 PM	14	1	0	15
11:30 AM	85	7	0	92	11:30 PM	6	3	0	9
11:45 AM	89	6	1	96	11:45 PM	6	2	0	8

AM Total 2377 188 19 2584
Percentage 91.99% 7.28% 0.74%

AM Peak 7:15 AM 7:30 AM 6:15 AM 7:00 AM
Volume 453 37 6 494

PM Total 3432 135 3 3570
Percentage 96.13% 3.78% 0.08%

PM Peak 5:15 PM 12:00 PM 3:00 PM 5:15 PM
Volume 582 24 2 592

Day Total 5809 323 22 6154
Percentage 94.39% 5.25% 0.36%

Massachusetts Avenue
west of Pine Court
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File # 207450 ATR A

Count Date: Wednesday, February 5, 2020
Direction: EB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total	PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	2	0	2	12:00 PM	107	5	0	112
12:15 AM	7	1	0	8	12:15 PM	123	5	1	129
12:30 AM	2	2	0	4	12:30 PM	128	5	0	133
12:45 AM	3	2	0	5	12:45 PM	116	5	0	121
1:00 AM	2	1	0	3	1:00 PM	102	7	0	109
1:15 AM	2	0	0	2	1:15 PM	103	6	1	110
1:30 AM	0	0	0	0	1:30 PM	100	9	0	109
1:45 AM	1	0	0	1	1:45 PM	106	4	0	110
2:00 AM	1	0	0	1	2:00 PM	90	6	0	96
2:15 AM	1	0	0	1	2:15 PM	103	7	0	110
2:30 AM	1	0	0	1	2:30 PM	95	5	0	100
2:45 AM	1	0	0	1	2:45 PM	103	7	0	110
3:00 AM	1	0	0	1	3:00 PM	128	7	0	135
3:15 AM	0	0	0	0	3:15 PM	134	8	0	142
3:30 AM	2	2	0	4	3:30 PM	106	7	0	113
3:45 AM	1	0	1	2	3:45 PM	118	5	0	123
4:00 AM	2	0	0	2	4:00 PM	119	9	2	130
4:15 AM	7	0	0	7	4:15 PM	129	6	0	135
4:30 AM	13	1	0	14	4:30 PM	129	6	0	135
4:45 AM	2	1	0	3	4:45 PM	124	2	0	126
5:00 AM	9	3	0	12	5:00 PM	150	3	0	153
5:15 AM	16	2	1	19	5:15 PM	123	2	0	125
5:30 AM	14	1	0	15	5:30 PM	155	2	0	157
5:45 AM	16	3	0	19	5:45 PM	148	2	0	150
6:00 AM	19	3	0	22	6:00 PM	146	4	0	150
6:15 AM	55	2	0	57	6:15 PM	126	5	0	131
6:30 AM	73	6	0	79	6:30 PM	111	3	0	114
6:45 AM	96	18	0	114	6:45 PM	113	7	0	120
7:00 AM	111	9	1	121	7:00 PM	93	3	0	96
7:15 AM	114	5	0	119	7:15 PM	99	1	0	100
7:30 AM	113	4	0	117	7:30 PM	71	5	0	76
7:45 AM	113	4	1	118	7:45 PM	56	2	0	58
8:00 AM	98	5	1	104	8:00 PM	73	4	0	77
8:15 AM	130	4	0	134	8:15 PM	60	3	0	63
8:30 AM	128	4	1	133	8:30 PM	65	1	0	66
8:45 AM	104	6	1	111	8:45 PM	53	4	0	57
9:00 AM	109	2	0	111	9:00 PM	48	2	0	50
9:15 AM	116	8	1	125	9:15 PM	33	2	0	35
9:30 AM	102	6	0	108	9:30 PM	22	4	0	26
9:45 AM	101	8	0	109	9:45 PM	24	1	0	25
10:00 AM	99	5	2	106	10:00 PM	18	4	0	22
10:15 AM	71	7	0	78	10:15 PM	24	1	0	25
10:30 AM	102	5	0	107	10:30 PM	13	0	0	13
10:45 AM	99	4	0	103	10:45 PM	17	4	0	21
11:00 AM	77	5	0	82	11:00 PM	10	2	0	12
11:15 AM	106	3	0	109	11:15 PM	5	1	0	6
11:30 AM	121	4	0	125	11:30 PM	8	3	0	11
11:45 AM	103	5	0	108	11:45 PM	3	1	1	5

AM Total 2464 153 10 2627
Percentage 93.80% 5.82% 0.38%

AM Peak 8:15 AM 6:30 AM 7:45 AM 7:45 AM
Volume 471 38 3 489

PM Total 4130 197 5 4332
Percentage 95.34% 4.55% 0.12%

PM Peak 5:00 PM 2:45 PM 3:15 PM 5:30 PM
Volume 576 29 2 588

Day Total 6594 350 15 6959
Percentage 94.75% 5.03% 0.22%

Massachusetts Avenue
west of Pine Court
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File # 207450 ATR A

Count Date: Tuesday, February 4, 2020
Direction: WB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	6	2	0	8
12:15 AM	7	1	0	8
12:30 AM	3	1	0	4
12:45 AM	2	2	0	4
1:00 AM	2	1	0	3
1:15 AM	0	0	1	1
1:30 AM	0	2	0	2
1:45 AM	0	0	0	0
2:00 AM	2	0	0	2
2:15 AM	0	0	0	0
2:30 AM	1	0	0	1
2:45 AM	0	0	0	0
3:00 AM	0	0	0	0
3:15 AM	1	0	0	1
3:30 AM	1	0	1	2
3:45 AM	1	0	0	1
4:00 AM	1	0	0	1
4:15 AM	3	0	0	3
4:30 AM	7	1	0	8
4:45 AM	9	0	0	9
5:00 AM	10	4	0	14
5:15 AM	17	3	0	20
5:30 AM	22	1	1	24
5:45 AM	28	3	0	31
6:00 AM	29	1	0	30
6:15 AM	32	5	3	40
6:30 AM	38	1	0	39
6:45 AM	69	6	0	75
7:00 AM	85	11	0	96
7:15 AM	74	7	0	81
7:30 AM	130	7	0	137
7:45 AM	139	5	1	145
8:00 AM	145	7	0	152
8:15 AM	100	3	1	104
8:30 AM	97	9	0	106
8:45 AM	124	7	1	132
9:00 AM	95	8	0	103
9:15 AM	78	8	1	87
9:30 AM	91	3	0	94
9:45 AM	98	10	1	109
10:00 AM	88	3	1	92
10:15 AM	90	7	0	97
10:30 AM	75	4	0	79
10:45 AM	90	11	0	101
11:00 AM	93	10	1	104
11:15 AM	82	4	1	87
11:30 AM	107	3	0	110
11:45 AM	106	5	2	113

AM Total	2278	166	16	2460
Percentage	92.60%	6.75%	0.65%	
AM Peak	7:30 AM	8:30 AM	5:30 AM	7:30 AM
Volume	514	32	4	538

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	112	6	1	119
12:15 PM	106	5	0	111
12:30 PM	103	7	0	110
12:45 PM	93	6	0	99
1:00 PM	4	2	1	7
1:15 PM	11	6	0	17
1:30 PM	8	2	1	11
1:45 PM	8	3	0	11
2:00 PM	6	3	1	10
2:15 PM	5	5	0	10
2:30 PM	20	1	0	21
2:45 PM	108	8	1	117
3:00 PM	116	4	0	120
3:15 PM	124	6	0	130
3:30 PM	97	3	0	100
3:45 PM	116	5	0	121
4:00 PM	117	3	0	120
4:15 PM	96	2	0	98
4:30 PM	109	3	0	112
4:45 PM	112	2	0	114
5:00 PM	113	7	1	121
5:15 PM	98	1	0	99
5:30 PM	98	1	0	99
5:45 PM	122	3	0	125
6:00 PM	123	1	0	124
6:15 PM	84	3	0	87
6:30 PM	103	3	1	107
6:45 PM	84	4	0	88
7:00 PM	97	0	0	97
7:15 PM	77	2	0	79
7:30 PM	88	3	1	92
7:45 PM	75	0	0	75
8:00 PM	72	4	0	76
8:15 PM	56	1	0	57
8:30 PM	71	5	0	76
8:45 PM	43	2	0	45
9:00 PM	65	2	0	67
9:15 PM	42	3	0	45
9:30 PM	38	2	0	40
9:45 PM	27	2	0	29
10:00 PM	24	4	0	28
10:15 PM	20	1	0	21
10:30 PM	23	1	0	24
10:45 PM	16	1	0	17
11:00 PM	14	1	0	15
11:15 PM	7	2	0	9
11:30 PM	5	1	0	6
11:45 PM	7	2	0	9

PM Total	3163	144	8	3315
Percentage	95.41%	4.34%	0.24%	
PM Peak	3:15 PM	12:00 PM	12:45 PM	3:00 PM
Volume	454	24	2	471

Day Total	5441	310	24	5775
Percentage	94.22%	5.37%	0.42%	

Massachusetts Avenue
west of Pine Court
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File # 207450 ATR A

Count Date: Wednesday, February 5, 2020
Direction: WB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total	PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	4	2	0	6	12:00 PM	99	8	0	107
12:15 AM	2	1	0	3	12:15 PM	125	5	1	131
12:30 AM	2	2	1	5	12:30 PM	100	4	1	105
12:45 AM	1	1	0	2	12:45 PM	109	9	0	118
1:00 AM	4	1	0	5	1:00 PM	105	4	0	109
1:15 AM	2	0	0	2	1:15 PM	106	5	0	111
1:30 AM	1	0	0	1	1:30 PM	113	10	0	123
1:45 AM	2	1	0	3	1:45 PM	95	5	0	100
2:00 AM	0	0	0	0	2:00 PM	113	5	0	118
2:15 AM	1	0	0	1	2:15 PM	103	10	0	113
2:30 AM	1	0	0	1	2:30 PM	141	2	0	143
2:45 AM	0	0	0	0	2:45 PM	130	7	0	137
3:00 AM	1	0	0	1	3:00 PM	129	12	0	141
3:15 AM	2	0	0	2	3:15 PM	113	6	2	121
3:30 AM	1	0	0	1	3:30 PM	126	6	0	132
3:45 AM	0	0	0	0	3:45 PM	106	8	0	114
4:00 AM	2	0	0	2	4:00 PM	119	1	0	120
4:15 AM	1	0	0	1	4:15 PM	123	5	0	128
4:30 AM	6	1	0	7	4:30 PM	98	5	1	104
4:45 AM	7	1	1	9	4:45 PM	113	1	0	114
5:00 AM	10	3	0	13	5:00 PM	126	5	0	131
5:15 AM	12	1	0	13	5:15 PM	126	2	0	128
5:30 AM	23	1	0	24	5:30 PM	113	4	0	117
5:45 AM	20	2	0	22	5:45 PM	111	3	0	114
6:00 AM	23	4	1	28	6:00 PM	114	2	0	116
6:15 AM	34	5	1	40	6:15 PM	87	6	0	93
6:30 AM	35	3	0	38	6:30 PM	92	7	0	99
6:45 AM	67	11	1	79	6:45 PM	92	4	0	96
7:00 AM	78	3	0	81	7:00 PM	82	2	0	84
7:15 AM	90	7	1	98	7:15 PM	84	2	0	86
7:30 AM	129	5	0	134	7:30 PM	62	5	0	67
7:45 AM	148	5	0	153	7:45 PM	51	1	0	52
8:00 AM	143	1	1	145	8:00 PM	70	3	0	73
8:15 AM	110	5	1	116	8:15 PM	69	3	0	72
8:30 AM	122	4	1	127	8:30 PM	72	2	1	75
8:45 AM	106	5	0	111	8:45 PM	55	2	0	57
9:00 AM	104	12	0	116	9:00 PM	59	2	0	61
9:15 AM	80	12	1	93	9:15 PM	44	4	0	48
9:30 AM	90	7	2	99	9:30 PM	28	1	0	29
9:45 AM	97	8	1	106	9:45 PM	26	3	0	29
10:00 AM	97	2	0	99	10:00 PM	23	2	0	25
10:15 AM	82	7	0	89	10:15 PM	22	1	0	23
10:30 AM	87	3	0	90	10:30 PM	12	1	0	13
10:45 AM	89	4	0	93	10:45 PM	26	2	0	28
11:00 AM	84	8	1	93	11:00 PM	11	1	0	12
11:15 AM	91	5	0	96	11:15 PM	7	2	0	9
11:30 AM	99	4	0	103	11:30 PM	3	2	0	5
11:45 AM	105	5	0	110	11:45 PM	7	2	0	9

AM Total 2295 152 14 2461
Percentage 93.25% 6.18% 0.57%
AM Peak 7:30 AM 9:00 AM 9:00 AM 7:30 AM
Volume 530 39 4 548

PM Total 3940 194 6 4140
Percentage 95.17% 4.69% 0.14%
PM Peak 2:30 PM 3:00 PM 12:00 PM 2:30 PM
Volume 513 32 2 542

Day Total 6235 346 20 6601
Percentage 94.46% 5.24% 0.30%

Massachusetts Avenue
west of Pine Court
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File # 207450 ATR A

Direction: EB

Weekly Report

Day Date	Tuesday 02/04/20		Wednesday 02/05/20												Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	7	125	2	112	0	0	0	0	0	0	0	0	0	0	5	119
12:15	7	117	8	129	0	0	0	0	0	0	0	0	0	0	8	123
12:30	4	141	4	133	0	0	0	0	0	0	0	0	0	0	4	137
12:45	6	51	5	121	0	0	0	0	0	0	0	0	0	0	6	86
1:00	2	2	3	109	0	0	0	0	0	0	0	0	0	0	3	56
1:15	4	2	2	110	0	0	0	0	0	0	0	0	0	0	3	56
1:30	0	5	0	109	0	0	0	0	0	0	0	0	0	0	0	57
1:45	2	2	1	110	0	0	0	0	0	0	0	0	0	0	2	56
2:00	1	2	1	96	0	0	0	0	0	0	0	0	0	0	1	49
2:15	2	3	1	110	0	0	0	0	0	0	0	0	0	0	2	57
2:30	0	20	1	100	0	0	0	0	0	0	0	0	0	0	1	60
2:45	2	109	1	110	0	0	0	0	0	0	0	0	0	0	2	110
3:00	0	117	1	135	0	0	0	0	0	0	0	0	0	0	1	126
3:15	0	135	0	142	0	0	0	0	0	0	0	0	0	0	0	139
3:30	2	129	4	113	0	0	0	0	0	0	0	0	0	0	3	121
3:45	5	128	2	123	0	0	0	0	0	0	0	0	0	0	4	126
4:00	1	128	2	130	0	0	0	0	0	0	0	0	0	0	2	129
4:15	4	121	7	135	0	0	0	0	0	0	0	0	0	0	6	128
4:30	10	130	14	135	0	0	0	0	0	0	0	0	0	0	12	133
4:45	5	147	3	126	0	0	0	0	0	0	0	0	0	0	4	137
5:00	18	127	12	153	0	0	0	0	0	0	0	0	0	0	15	140
5:15	19	151	19	125	0	0	0	0	0	0	0	0	0	0	19	138
5:30	16	162	15	157	0	0	0	0	0	0	0	0	0	0	16	160
5:45	22	145	19	150	0	0	0	0	0	0	0	0	0	0	21	148
6:00	32	134	22	150	0	0	0	0	0	0	0	0	0	0	27	142
6:15	60	135	57	131	0	0	0	0	0	0	0	0	0	0	59	133
6:30	88	139	79	114	0	0	0	0	0	0	0	0	0	0	84	127
6:45	108	119	114	120	0	0	0	0	0	0	0	0	0	0	111	120
7:00	114	104	121	96	0	0	0	0	0	0	0	0	0	0	118	100
7:15	116	85	119	100	0	0	0	0	0	0	0	0	0	0	118	93
7:30	122	78	117	76	0	0	0	0	0	0	0	0	0	0	120	77
7:45	142	62	118	58	0	0	0	0	0	0	0	0	0	0	130	60
8:00	109	70	104	77	0	0	0	0	0	0	0	0	0	0	107	74
8:15	109	53	134	63	0	0	0	0	0	0	0	0	0	0	122	58
8:30	122	61	133	66	0	0	0	0	0	0	0	0	0	0	128	64
8:45	120	48	111	57	0	0	0	0	0	0	0	0	0	0	116	53
9:00	98	47	111	50	0	0	0	0	0	0	0	0	0	0	105	49
9:15	121	44	125	35	0	0	0	0	0	0	0	0	0	0	123	40
9:30	94	33	108	26	0	0	0	0	0	0	0	0	0	0	101	30
9:45	111	24	109	25	0	0	0	0	0	0	0	0	0	0	110	25
10:00	97	27	106	22	0	0	0	0	0	0	0	0	0	0	102	25
10:15	79	28	78	25	0	0	0	0	0	0	0	0	0	0	79	27
10:30	123	21	107	13	0	0	0	0	0	0	0	0	0	0	115	17
10:45	98	16	103	21	0	0	0	0	0	0	0	0	0	0	101	19
11:00	88	11	82	12	0	0	0	0	0	0	0	0	0	0	85	12
11:15	106	15	109	6	0	0	0	0	0	0	0	0	0	0	108	11
11:30	92	9	125	11	0	0	0	0	0	0	0	0	0	0	109	10
11:45	96	8	108	5	0	0	0	0	0	0	0	0	0	0	102	7
Total	2584	3570	2627	4332	0	0	0	0	0	0	0	0	0	0	2606	3951
Day Total	6154		6959		0		0		0		0		0		6557	
Peak HR	7:00 AM	5:15 PM	7:45 AM	5:30 PM												
Volume	494	592	489	588											486	587

Massachusetts Avenue
west of Pine Court
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File # 207450 ATR A

Direction: WB

Weekly Report

Day Date	Tuesday 02/04/20		Wednesday 02/05/20												Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	8	119	6	107	0	0	0	0	0	0	0	0	0	0	7	113
12:15	8	111	3	131	0	0	0	0	0	0	0	0	0	0	6	121
12:30	4	110	5	105	0	0	0	0	0	0	0	0	0	0	5	108
12:45	4	99	2	118	0	0	0	0	0	0	0	0	0	0	3	109
1:00	3	7	5	109	0	0	0	0	0	0	0	0	0	0	4	58
1:15	1	17	2	111	0	0	0	0	0	0	0	0	0	0	2	64
1:30	2	11	1	123	0	0	0	0	0	0	0	0	0	0	2	67
1:45	0	11	3	100	0	0	0	0	0	0	0	0	0	0	2	56
2:00	2	10	0	118	0	0	0	0	0	0	0	0	0	0	1	64
2:15	0	10	1	113	0	0	0	0	0	0	0	0	0	0	1	62
2:30	1	21	1	143	0	0	0	0	0	0	0	0	0	0	1	82
2:45	0	117	0	137	0	0	0	0	0	0	0	0	0	0	0	127
3:00	0	120	1	141	0	0	0	0	0	0	0	0	0	0	1	131
3:15	1	130	2	121	0	0	0	0	0	0	0	0	0	0	2	126
3:30	2	100	1	132	0	0	0	0	0	0	0	0	0	0	2	116
3:45	1	121	0	114	0	0	0	0	0	0	0	0	0	0	1	118
4:00	1	120	2	120	0	0	0	0	0	0	0	0	0	0	2	120
4:15	3	98	1	128	0	0	0	0	0	0	0	0	0	0	2	113
4:30	8	112	7	104	0	0	0	0	0	0	0	0	0	0	8	108
4:45	9	114	9	114	0	0	0	0	0	0	0	0	0	0	9	114
5:00	14	121	13	131	0	0	0	0	0	0	0	0	0	0	14	126
5:15	20	99	13	128	0	0	0	0	0	0	0	0	0	0	17	114
5:30	24	99	24	117	0	0	0	0	0	0	0	0	0	0	24	108
5:45	31	125	22	114	0	0	0	0	0	0	0	0	0	0	27	120
6:00	30	124	28	116	0	0	0	0	0	0	0	0	0	0	29	120
6:15	40	87	40	93	0	0	0	0	0	0	0	0	0	0	40	90
6:30	39	107	38	99	0	0	0	0	0	0	0	0	0	0	39	103
6:45	75	88	79	96	0	0	0	0	0	0	0	0	0	0	77	92
7:00	96	97	81	84	0	0	0	0	0	0	0	0	0	0	89	91
7:15	81	79	98	86	0	0	0	0	0	0	0	0	0	0	90	83
7:30	137	92	134	67	0	0	0	0	0	0	0	0	0	0	136	80
7:45	145	75	153	52	0	0	0	0	0	0	0	0	0	0	149	64
8:00	152	76	145	73	0	0	0	0	0	0	0	0	0	0	149	75
8:15	104	57	116	72	0	0	0	0	0	0	0	0	0	0	110	65
8:30	106	76	127	75	0	0	0	0	0	0	0	0	0	0	117	76
8:45	132	45	111	57	0	0	0	0	0	0	0	0	0	0	122	51
9:00	103	67	116	61	0	0	0	0	0	0	0	0	0	0	110	64
9:15	87	45	93	48	0	0	0	0	0	0	0	0	0	0	90	47
9:30	94	40	99	29	0	0	0	0	0	0	0	0	0	0	97	35
9:45	109	29	106	29	0	0	0	0	0	0	0	0	0	0	108	29
10:00	92	28	99	25	0	0	0	0	0	0	0	0	0	0	96	27
10:15	97	21	89	23	0	0	0	0	0	0	0	0	0	0	93	22
10:30	79	24	90	13	0	0	0	0	0	0	0	0	0	0	85	19
10:45	101	17	93	28	0	0	0	0	0	0	0	0	0	0	97	23
11:00	104	15	93	12	0	0	0	0	0	0	0	0	0	0	99	14
11:15	87	9	96	9	0	0	0	0	0	0	0	0	0	0	92	9
11:30	110	6	103	5	0	0	0	0	0	0	0	0	0	0	107	6
11:45	113	9	110	9	0	0	0	0	0	0	0	0	0	0	112	9
Total	2460	3315	2461	4140	0	0	0	0	0	0	0	0	0	0	2461	3728
Day Total	5775		6601		0		0		0		0		0		6188	
Peak HR	7:30 AM	3:00 PM	7:30 AM	2:30 PM												
Volume	538	471	548	542											543	499

PDI File #: 207450 A
 Location: N: Driveway S: Appleton Place
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolke
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 7:00 AM
 End Time: 9:00 AM
 Class:



Cars and Heavy Vehicles (Combined)

Class	Car and Heavy Vehicle Counts (Continued)																												
	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue						Total		
	from North					from East					from South					from Southwest					from West								
Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Left	Thru	Left	U-Turn	Total	Right	Left	Thru	Left	U-Turn		Total	
7:00 AM	0	0	0	0	0	0	72	61	0	0	133	2	0	3	3	0	8	0	22	0	1	0	23	2	1	83	0	86	250
7:15 AM	0	0	0	0	0	0	72	54	1	0	127	2	0	2	1	0	5	1	24	0	2	0	27	8	1	95	0	102	261
7:30 AM	0	0	0	0	0	0	71	76	0	0	147	4	0	1	1	0	6	1	81	0	2	0	84	6	1	94	0	95	282
7:45 AM	0	0	0	0	0	0	88	61	0	0	149	7	0	6	29	0	42	6	31	0	3	0	40	16	7	103	0	0	362
Total	0	0	0	0	0	0	303	252	1	0	561	15	0	12	34	0	81	8	108	0	4	0	124	30	14	385	0	0	1155
8:00 AM	0	0	0	0	0	0	117	65	4	0	186	4	0	3	4	0	11	0	46	0	1	0	47	4	2	66	0	0	316
8:15 AM	0	0	0	0	0	0	73	63	2	0	138	3	0	1	1	0	5	1	37	0	0	0	38	4	1	78	0	0	264
8:30 AM	0	0	0	0	0	0	72	51	3	0	126	2	0	0	4	0	6	1	29	0	5	0	35	5	0	84	0	0	256
8:45 AM	0	0	0	0	0	0	92	47	3	0	142	0	0	2	1	0	3	0	80	0	2	0	82	1	3	83	1	0	265
Total	0	0	0	0	0	0	354	226	12	0	592	9	0	6	10	0	25	2	142	0	8	0	152	14	6	311	1	0	1301
Grand Total	0	0	0	0	0	0	657	478	18	0	1153	24	0	18	44	0	88	10	250	0	16	0	276	44	20	676	1	0	2258
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	57.0	41.5	1.6	0.0	27.9	0.0	20.9	51.2	0.0	3.6	90.6	0.0	5.8	0.0	5.9	2.7	91.2	0.1	0.0				
Total %	0.0	0.0	0.0	0.0	0.0	0.0	29.1	21.2	0.8	0.0	31.1	1.1	0.0	0.8	2.0	0.0	3.8	0.4	11.1	0.0	0.7	0.0	12.2	2.0	0.9	30.0	0.0	0.0	32.8
Excluding Total	1					950					48					586					891					2258			
Cars	0	0	0	0	0	0	600	465	18	0	1083	24	0	17	41	0	82	9	247	0	15	0	271	43	19	613	1	0	1776
% Cars	0.0	0.0	0.0	0.0	0.0	0.0	91.3	97.3	100.0	0.0	95.9	100.0	0.0	94.4	93.2	0.0	95.3	96.0	98.8	0.0	93.8	0.0	98.2	97.7	95.0	90.7	100.0	91.2	93.6
Excluding %	1					884					46					509					822					2112			
Heavy Vehicles	0	0	0	0	0	0	57	13	0	0	70	0	0	1	3	0	4	1	3	0	1	0	5	1	1	63	0	0	65
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	8.7	2.7	0.0	0.0	6.1	0.0	0.0	5.6	6.8	0.0	4.7	10.0	1.2	0.0	6.3	0.0	1.8	2.3	5.0	9.3	0.0	0.0	8.8
Excluding %	0					66					2					17					59					144			

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at

7:30 AM	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue					Total			
	from North					from East					from South					from Southwest					from West								
	Right	Through	Left	U-Turn	Total	Right	Through	From Left	U-Turn	Total	Right	Through	Left	From Left	U-Turn	Total	Right	Through	Left	U-Turn	Total	Right	Through	Left	U-Turn		Total		
7:30 AM	0	0	0	0	0	0	71	76	0	0	147	4	0	1	1	0	8	1	31	0	2	0	34	6	5	84	0	95	282
7:45 AM	0	0	0	0	0	0	80	61	5	0	154	7	0	6	29	0	42	6	31	0	3	0	40	16	7	103	0	114	362
8:00 AM	0	0	0	0	0	0	117	65	4	0	186	4	0	3	4	0	11	0	46	0	1	0	47	4	2	66	0	72	316
8:15 AM	0	0	0	0	0	0	73	63	2	0	138	3	0	1	1	0	5	1	37	0	0	0	38	4	1	78	0	83	264
Total Volume	0	0	0	0	0	0	349	265	11	0	625	18	0	11	35	0	64	8	145	0	6	0	159	20	15	331	0	376	1224
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	55.8	42.4	1.8	0.0	28.1	0.0	0.0	17.2	54.7	0.0	11.1	5.0	91.2	0.0	3.8	0.0	8.6	2.0	4.0	33.0	0.0	37.6	122.4
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.746	0.872	0.550	0.000	0.840	0.643	0.000	0.458	0.302	0.000	0.281	0.233	0.788	0.000	0.500	0.000	0.846	0.469	0.536	0.803	0.000	0.800	0.468
Cars	0	0	0	0	0	0	325	259	11	0	595	18	0	11	33	0	62	8	143	0	6	0	157	29	15	294	0	338	1152
Cars %	0.0	0.0	0.0	0.0	0.0	0.0	93.1	97.7	100.0	0.0	95.2	100.0	0.0	100.0	94.3	0.0	96.9	100.0	98.6	0.0	100.0	0.0	98.7	96.7	100.0	88.8	0.0	89.9	94.1
Heavy Vehicles	0	0	0	0	0	0	24	6	0	0	30	0	0	0	2	0	2	0	2	0	0	0	2	1	0	37	0	38	7.7
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	6.9	2.3	0.0	0.0	4.8	0.0	0.0	0.0	5.7	0.0	3.1	0.0	1.4	0.0	0.0	0.0	1.3	3.3	0.0	11.2	0.0	10.1	9.5
Cars Excl. Log	0	0	0	0	0	0	325	259	11	0	595	18	0	11	33	0	62	8	143	0	6	0	157	29	15	294	0	338	1152
Heavy Excl. Log	0	0	0	0	0	0	24	6	0	0	30	0	0	0	2	0	2	0	2	0	0	0	2	1	0	37	0	38	7.7
Total Excl. Log	0	0	0	0	0	0	349	265	11	0	625	18	0	11	35	0	64	8	145	0	6	0	159	30	15	331	0	376	1224
Cars Excl. Log	0					455					34					321					842					1152			
Heavy Excl. Log	0					30					2					9					24					38			
Total Excl. Log	0					484					36					330					866					1222			

PDI File #: 207450 A
 Location: N: Driveway S: Appleton Place
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 7:00 AM
 End Time: 9:00 AM
 Class:



Cars

Class	Cars																															
	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue							
	from North						from East						from South						from Southwest						from West							
	Right	Rear Right	Thru	Left	U-Turn	Total	Right	Thru	Rear Left	Left	U-Turn	Total	Right	Thru	Left	Rear Left	U-Turn	Total	Rear Right	Rear Right	Rear Left	Rear Left	U-Turn	Total	Rear Right	Right	Thru	Left	U-Turn	Total	Total	
7:00 AM	0	0	0	0	0	0	0	59	61	0	0	120	2	0	3	2	0	7	0	21	0	1	0	22	2	1	75	0	0	78	222	
7:15 AM	0	0	0	0	0	0	0	65	51	1	0	117	2	0	1	1	0	4	0	24	0	1	0	25	6	1	87	0	0	94	240	
7:30 AM	0	0	0	0	0	0	0	63	76	0	0	139	4	0	1	1	0	6	1	30	0	2	0	33	6	5	72	0	0	83	261	
7:45 AM	0	0	0	0	0	0	0	81	60	5	0	146	7	0	6	27	0	40	6	30	0	3	0	39	15	7	99	0	0	116	341	
Total	0	0	0	0	0	0	0	268	248	6	0	522	15	0	11	31	0	57	7	105	0	7	0	119	29	14	328	0	0	371	1069	
8:00 AM	0	0	0	0	0	0	0	111	64	4	0	179	4	0	3	4	0	11	0	46	0	1	0	47	4	2	61	0	0	67	304	
8:15 AM	0	0	0	0	0	0	0	70	59	7	0	131	3	0	1	1	0	5	1	37	0	0	0	38	4	1	67	0	0	72	246	
8:30 AM	0	0	0	0	0	0	0	66	49	8	0	118	2	0	0	4	0	6	1	29	0	5	0	35	5	0	80	0	0	85	244	
8:45 AM	0	0	0	0	0	0	0	85	45	1	0	131	0	0	2	1	0	3	0	30	0	2	0	32	1	2	77	1	0	81	249	
Total	0	0	0	0	0	0	0	392	217	12	0	551	9	0	6	10	0	25	2	142	0	8	0	152	14	5	285	1	0	305	1043	
Grand Total	0	0	0	0	0	0	0	600	465	18	0	1083	24	0	17	41	0	82	9	247	0	15	0	271	43	19	613	1	0	676	2112	
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.4	42.9	1.7	0.0	29.3	0.0	20.7	50.0	0.0	3.3	91.1	0.0	5.5	0.0	6.4	2.8	90.7	0.1	0.0						
Portal %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.4	22.0	0.9	0.0	51.3	1.1	0.0	0.8	1.9	0.0	3.9	0.4	11.7	0.0	0.7	0.0	12.8	2.0	0.9	29.0	0.0	0.0	32.0		
Excluding TSP Total							1					889						46						549						632	2112	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						
	from North						from East						from South						from Southwest						from West						
	Right	Rear Right	Thru	Left	U-Turn	Total	Right	Thru	Rear Left	Left	U-Turn	Total	Right	Thru	Left	Rear Left	U-Turn	Total	Rear Right	Rear Right	Rear Left	Rear Left	U-Turn	Total	Rear Right	Right	Thru	Left	U-Turn	Total	
7:30 AM	0	0	0	0	0	0	0	63	76	0	0	139	4	0	1	1	0	6	1	30	0	2	0	33	6	5	72	0	0	83	261
7:45 AM	0	0	0	0	0	0	0	81	60	5	0	146	7	0	6	27	0	30	6	30	0	3	0	39	15	7	99	0	0	116	341
8:00 AM	0	0	0	0	0	0	0	111	64	4	0	179	4	0	3	4	0	11	0	46	0	1	0	47	4	2	61	0	0	67	304
8:15 AM	0	0	0	0	0	0	0	70	59	7	0	131	3	0	1	1	0	5	1	37	0	0	0	38	4	1	67	0	0	72	246
Total Volume	0	0	0	0	0	0	0	325	259	11	0	595	18	0	11	33	0	82	8	143	0	6	0	157	29	15	294	0	0	318	1152
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.6	43.5	1.8	0.0	29.0	0.0	17.7	53.2	0.0	5.1	91.1	0.0	3.8	0.0	8.6	4.4	87.0	0.0	0.0					
Flow	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.732	0.852	0.550	0.000	0.831	0.643	0.000	0.458	0.306	0.000	0.388	0.333	0.777	0.000	0.700	0.000	0.835	0.653	0.536	0.782	0.000	0.000	0.723	0.845
Entering Leg	0	0	0	0	0	0	0	325	259	11	0	595	18	0	11	33	0	82	8	143	0	6	0	157	29	15	294	0	0	318	1152
Exiting Leg							0					455						34					321							342	1152
Total							0					1050						96						478						660	2304

PDI File #: 207450 A
 Location: N: Driveway S: Appleton Place
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 7:00 AM
 End Time: 9:00 AM
 Class:



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

Class	Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)																													
	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue							Total		
	from North					from East					from South					from Southwest					from West									
	Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total				
7:00 AM	0	0	0	0	0	0	0	13	0	0	0	13	0	0	0	1	0	1	0	0	1	0	0	0	0	8	23			
7:15 AM	0	0	0	0	0	0	0	7	3	0	0	10	0	0	1	0	0	1	0	1	0	2	0	0	0	0	8	21		
7:30 AM	0	0	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	1	0	0	0	1	0	0	12	0	12	21		
7:45 AM	0	0	0	0	0	0	0	7	1	0	0	8	0	0	0	2	0	1	0	0	0	1	0	0	0	0	10	21		
Total	0	0	0	0	0	0	0	35	4	0	0	39	0	0	1	3	0	4	1	3	0	5	1	0	37	0	38	86		
8:00 AM	0	0	0	0	0	0	0	8	1	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	12		
8:15 AM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	11	0	0	11	18		
8:30 AM	0	0	0	0	0	0	0	6	2	0	0	8	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	12		
8:45 AM	0	0	0	0	0	0	0	7	2	0	0	9	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	16		
Total	0	0	0	0	0	0	0	22	5	0	0	27	0	0	0	0	0	0	0	0	0	0	1	28	0	0	29	58		
Grand Total	0	0	0	0	0	0	0	57	13	0	0	70	0	0	1	3	0	4	1	3	0	5	1	1	63	0	0	65	144	
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.4	18.6	0.0	0.0	0.0	0.0	0.0	25.0	75.0	0.0	20.0	60.0	0.0	20.0	0.0	1.5	1.5	96.9	0.0	0.0	99.4	144	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.6	8.0	0.0	0.0	48.6	0.0	0.0	0.7	2.1	0.0	2.8	0.7	2.1	0.0	0.7	0.0	63.8	0.0	0.0	65.1	144		
Exiting Leg Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	143	
Buses	0	0	0	0	0	0	0	24	0	0	0	24	0	0	0	0	0	0	0	0	0	0	1	0	20	0	0	21	48	
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.1	0.0	0.0	0.0	34.9	0.0	0.0	0.0	100.0	0.0	75.0	0.0	0.0	0.0	0.0	100.0	0.0	31.7	0.0	0.0	82.3	33.3	
Exiting Leg Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Single-Unit Trucks	0	0	0	0	0	0	0	30	12	0	0	42	0	0	1	0	0	1	1	0	1	0	3	0	1	35	0	0	36	84
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.6	92.3	0.0	0.0	60.0	0.0	0.0	100.0	0.0	0.0	25.0	100.0	100.0	0.0	100.0	0.0	0.0	55.8	0.0	0.0	55.4	56.3	
Exiting Leg Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Articulated Trucks	0	0	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	12	
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	7.7	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.7	0.0	0.0	12.3	8.3	
Exiting Leg Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue					Total		
	from North					from East					from South					from Southwest					from West							
	Right	Left	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Left	Thru	U-Turn	Total	Right	Thru	Left	U-Turn	Total			
7:00 AM	0	0	0	0	0	0	13	0	0	13	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	8	23	
7:15 AM	0	0	0	0	0	0	7	3	0	10	0	0	1	0	0	1	0	0	1	0	2	0	0	0	0	8	21	
7:30 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	1	0	0	0	1	0	0	12	0	12	21	
7:45 AM	0	0	0	0	0	0	7	1	0	8	0	0	0	2	0	2	0	0	0	0	1	0	0	0	0	10	21	
Total Volume	0	0	0	0	0	0	35	4	0	39	0	0	1	3	0	4	1	0	1	0	5	1	0	37	0	38	86	
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	80.7	10.3	0.0	0.0	0.0	0.0	25.0	75.0	0.0	20.0	60.0	0.0	20.0	0.0	2.8	0.0	97.4	0.0	0.0	99.4	144	
%	0.000	0.000	0.000	0.000	0.000	0.000	0.873	0.333	0.000	0.000	0.000	0.000	0.250	0.375	0.000	0.500	0.250	0.750	0.000	0.250	0.000	0.771	0.000	0.000	0.792	0.933	144	
Buses	0	0	0	0	0	0	15	0	0	15	0	0	0	3	0	3	0	0	0	0	0	1	0	9	0	0	10	28
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	42.9	0.0	0.0	38.5	0.0	0.0	0.0	100.0	0.0	75.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	24.3	0.0	0.0	26.3	32.6
Single Unit Trucks	0	0	0	0	0	0	19	3	0	22	0	0	1	0	0	1	1	3	0	1	0	0	0	22	0	0	22	50
% Single Unit	0.0	0.0	0.0	0.0	0.0	0.0	54.3	75.0	0.0	56.4	0.0	0.0	100.0	0.0	0.0	25.0	100.0	100.0	0.0	100.0	0.0	0.0	0.0	59.5	0.0	0.0	57.9	58.1
Articulated Trucks	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	8
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	2.9	25.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.2	0.0	0.0	15.6	9.3
Buses	0	0	0	0	0	0	15	0	0	15	0	0	0	3	0	3	0	0	0	0	0	1	0	9	0	0	10	28
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	42.9	0.0	0.0	38.5	0.0	0.0	0.0	100.0	0.0	75.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	24.3	0.0	0.0	26.3	32.6
Single Unit Trucks	0	0	0	0	0	0	19	3	0	22	0	0	1	0	0	1	1	3	0	1	0	0	0	22	0	0	22	50
% Single Unit	0.0	0.0	0.0	0.0	0.0	0.0	54.3	75.0	0.0	56.4	0.0	0.0	100.0	0.0	0.0	25.0	100.0	100.0	0.0	100.0	0.0	0.0	0.0	59.5	0.0	0.0	57.9	58.1
Articulated Trucks	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	8
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	2.9	25.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.2	0.0	0.0	15.6	9.3
Total Exiting Leg	0	0	0	0	0	0	35	4	0	39	0	0	1	3	0	4	1	0	1	0	5	1	0	37	0	0	37	86
Buses	0	0	0	0	0	0	15	0	0	15	0	0	0	3	0	3	0	0	0	0	0	1	0	9	0	0	10	28
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	42.9	0.0	0.0	38.5	0.0	0.0	0.0	100.0	0.0	75.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	24.3	0.0	0.0	26.3	32.6
Single Unit Trucks	0	0	0	0	0	0	19	3	0	22	0	0	1	0	0	1	1	3	0	1	0	0	0	22	0	0	22	50
% Single Unit	0.0	0.0	0.0	0.0	0.0	0.0	54.3	75.0	0.0	56.4	0.0	0.0	100.0	0.0	0.0	25.0	100.0	100.0	0.0	100.0	0.0	0.0	0.0	59.5	0.0	0.0	57.9	58.1
Articulated Trucks	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	8
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	2.9	25.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.2	0.0	0.0	15.6	9.3
Total Exiting Leg	0	0	0	0	0	0	35	4	0	39	0	0	1	3	0	4	1	0	1	0	5	1	0	37	0	0	37	86
Buses	0	0	0	0	0	0	15	0	0	15	0	0	0	3	0	3	0	0	0	0	0	1	0	9	0	0	10	28
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	42.9	0.0	0.0	38.5	0.0	0.0	0.0	100.0</														

PDI File #: 207450 A
 Location: N: Driveway S: Appleton Place
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street
 City, State: Arlington, MA
 Client: Nitsch Eng/B. Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 7:00 AM
 End Time: 9:00 AM
 Class:



Buses

Class	BUSES																																			
	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue											
	from North						from East						from South						from Southwest						from West											
	Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total					
7:00 AM	0	0	0	0	0	0	0	3	0	0	3	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4				
7:15 AM	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2					
7:30 AM	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
7:45 AM	0	0	0	0	0	0	0	3	0	0	3	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	3	0	0	3					
Total	0	0	0	0	0	0	0	15	0	0	15	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	1	0	6	0	0	10				
8:00 AM	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4					
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4					
8:30 AM	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1					
8:45 AM	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2					
Total	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	11					
Grand Total	0	0	0	0	0	0	0	24	0	0	24	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	1	0	20	0	0	21				
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	95.2	0.0	0.0					
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	0.0	0.0	0.0	6.3	0.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	41.7	0.0	0.0	43.8					
Existing Leg. Total	0						0						0						0						0						0					

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

Peak Hour Analysis from 07:00 AM to 09:00 AM Begins at:																																	
7:00 AM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total		
	from North						from East						from South						from Southwest						from West								
	Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Left	Thru	U-Turn	Total	Right	Left	Thru	U-Turn	Total	Right	Left	Thru	U-Turn		Total	
7:00 AM	0	0	0	0	0	0	0	5	0	0	5	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	10
7:15 AM	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	6	
7:30 AM	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	9
7:45 AM	0	0	0	0	0	0	0	3	0	0	3	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	1	0	3	0	0	4	13
Total Volume	0	0	0	0	0	0	0	15	0	0	15	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	1	0	9	0	0	10	28
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	90.0	0.0	0.0	0.0	100.0
#/Hr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.750	0.000	0.000	0.000	0.375	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.563	0.000	0.000	0.625	9.000	
Existing Leg	0	0	0	0	0	0	0	15	0	0	15	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	1	0	9	0	0	10	28
Existing Leg								9			9																					11	28
Total	0						0						0						0						0						21	56	

PDI File #: 207450 A
 Location: N: Driveway S: Appleton Place
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 7:00 AM
 End Time: 9:00 AM
 Class:



Single-Unit Trucks

Class	Driveway										Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue					
	from North						from East						from South						from Southwest						from West									
	Right	Through	Left	U-Turn	Total		Right	Through	Left	U-Turn	Total	Right	Through	Left	U-Turn	Total	Right	Through	Left	U-Turn	Total	Right	Through	Left	U-Turn	Total	Total							
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12						
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	11						
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	11	17						
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	10						
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	5	0	0	0	0	22	50						
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5						
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	12						
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	8						
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	8						
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	34						
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3	0	1	0	5	0	1	35	0	0	84						
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	20.0	60.0	0.0	20.0	0.0	0.0	0.0	2.8	97.2	0.0	0.0							
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	3.2	3.6	4.0	1.2	0.0	8.0	0.0	1.2	41.7	0.0	0.0	42.9						
Ending Leg Total	0						28						2						12						22						84			

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue					
	from North						from East						from South						from Southwest						from West					
	Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total			
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	12		
7:15 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	3	11		
7:30 AM	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	11	17			
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	5	10			
Total Volume	0	0	0	0	0	0	0	19	3	0	0	0	22	0	0	1	0	3	0	1	0	0	0	0	0	22	50			
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	86.4	13.6	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0		
Flow	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.534	0.375	0.000	0.000	0.688	0.000	0.000	0.250	0.000	0.000	0.250	0.750	0.000	0.250	0.000	0.645	0.000	0.000	0.500	0.000	0.360	0.735	
Entering Leg	0	0	0	0	0	0	0	0	19	3	0	0	22	0	0	1	0	0	3	0	1	0	0	0	0	22	50			
Exiting Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

PDI File #: 207450 A
 Location: N: Driveway S: Appleton Place
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 7:00 AM
 End Time: 9:00 AM
 Class:



Articulated Trucks

Class	APPROACHED TRUCKS																																
	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue								
	from North						from East						from South						from Southwest						from West								
	Right	Clear	Left	Thru	Left	U-Turn	Total	Right	Thru	Clear	Left	U-Turn	Total	Right	Thru	Left	Clear	Left	U-Turn	Total	Clear	Right	Clear	Left	U-Turn	Total	Clear	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	6
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
Total	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	8
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	2	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	
Total	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	4
Grand Total	0	0	0	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	12
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	8.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7	0.0	0.0	66.7	
Existing reg total																																12	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue					
	from North						from East						from South						from Southwest						from West					
	Right	Clear Right	Thru	Left	U-Turn	Total	Right	Thru	Clear Left	Thru	U-Turn	Total	Right	Thru	Left	Clear Left	U-Turn	Total	Right	Clear Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
phi	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	
Existing reg.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Existing reg.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

PDF File #: 207450 A
 Location: N: Driveway S: Appleton Place
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 7:00 AM
 End Time: 9:00 AM
 Class:



Bicycles (on Roadway and Crosswalks)

Class	Driveway										Massachusetts Avenue										Appleton Place										Appleton Street										Massachusetts Avenue										Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	from North										from East										from South										from Southwest										from West																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Driveway										Massachusetts Avenue										Appleton Place										Appleton Street										Massachusetts Avenue										Total		
	from North										from East										from South										from Southwest										from West												
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right								
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1				
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2				
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8				
% Approach Sat	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Flow	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8				
Exiting Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Total	0										0										1										0										6										8		

PDI File #: 207450 A
 Location: N: Driveway S: Appleton Place
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 7:00 AM
 End Time: 9:00 AM
 Class:



Pedestrians

	FLOWS																														Total									
	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue															
	from North						from East						from South						from Southwest						from West															
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	10	1	11	0	0	0	0	0	12	0	12	0	0	0	0	0	14	0	14	0	0	0	0	3	0	5	0	0	0	0	0	1	1	43	
7:15 AM	0	0	0	0	0	6	1	7	0	0	0	0	0	23	0	23	0	0	0	0	0	15	0	15	0	0	0	0	0	1	1	0	0	0	0	1	1	47		
7:30 AM	0	0	0	0	0	57	0	57	0	0	0	0	0	56	0	56	0	0	0	0	47	2	49	0	0	0	0	2	7	9	0	0	0	0	0	0	0	0	179	
7:45 AM	0	0	0	0	0	22	0	22	0	0	0	0	0	25	2	27	0	0	0	0	13	1	13	0	0	0	0	0	1	2	4	0	0	0	0	0	1	1	66	
Total	0	0	0	0	0	95	2	97	0	0	0	0	0	116	2	118	0	0	0	0	0	88	3	91	0	0	0	0	0	3	10	10	0	0	0	0	11	11	335	
8:00 AM	0	0	0	0	0	4	0	4	0	0	0	0	0	5	0	5	0	0	0	0	0	4	0	4	0	0	0	0	1	1	2	0	0	0	0	0	0	0	15	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
8:30 AM	0	0	0	0	0	0	7	2	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2	0	2	3	0	0	0	0	2	0	8	
8:45 AM	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	2	7	0	2	0	0	0	0	2	7	9	
Total	0	0	0	0	0	5	4	9	0	0	0	0	0	5	3	8	0	0	0	0	0	4	3	7	0	0	0	0	0	5	9	1	0	0	0	0	2	2	4	34
Grand Total	0	0	0	0	0	100	6	106	0	0	0	0	0	121	5	126	0	0	0	0	0	92	6	98	0	0	0	0	3	11	12	0	0	0	0	2	13	15	369	
Approach %	0	0	0	0	0	94.3	5.66		0	0	0	0	96	3.97		0	0	0	0	93.9	6.12		0	0	0	0	0	54.2	45.8		0	0	0	0	13	86.7				
Total %	0	0	0	0	0	27.1	1.63	28.7	0	0	0	0	32.8	1.16	34.1		0	0	0	0	24.9	1.83	26.6		0	0	0	0	3.52	2.98	8.1		0	0	0	5.4	3.52	4.07		
Existing Leg Total	106						126						98						24						15						369									

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

Peak Hour Analysis from 7:00 AM to 7:30 AM Begins at:	Driveway										Massachusetts Avenue										Appleton Place										Appleton Street										Massachusetts Avenue										Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	from North										from East										from South										from Southwest										from West																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
	Approach	Volume	Turn	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru		Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru

PDI File #: 207450 AA
 Location: N: Driveway S: Appleton Place
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM
 Class



Cars and Heavy Vehicles (Combined)

Class	Cars and Heavy Vehicles (Continued)																												
	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue								
	from North					from East					from South					from Southwest					from West								
	Right	Thru	Left	U-Turn	Total	Right	Thru	From Left	U-Turn	Total	Right	Thru	Left	From East	U-Turn	Total	Right	Thru	From Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total		
4:00 PM	1	0	0	0	1	1	84	39	0	124	2	0	2	2	0	6	1	46	0	3	50	1	2	99	1	0	103	284	
4:15 PM	1	0	0	0	1	0	71	30	0	101	0	0	1	1	0	2	0	51	0	4	55	2	5	101	0	0	108	267	
4:30 PM	1	1	0	0	2	0	84	27	2	113	0	0	1	0	0	1	2	57	0	3	62	1	5	92	2	0	100	278	
4:45 PM	0	0	0	0	0	1	85	47	1	134	2	0	2	2	0	6	1	49	1	3	54	3	2	108	0	0	113	307	
Total	3	1	0	0	4	2	324	143	3	472	4	0	6	5	9	15	4	203	1	13	221	7	14	400	3	0	424	1136	
5:00 PM	1	0	0	0	1	1	77	39	1	118	2	0	2	0	0	4	1	74	0	1	76	3	0	89	0	0	92	291	
5:15 PM	0	1	0	0	1	0	66	20	0	86	5	1	0	1	0	6	2	86	0	2	90	1	3	109	1	0	114	298	
5:30 PM	1	0	0	1	2	0	78	20	0	98	4	0	4	2	0	10	1	87	0	4	92	1	5	108	2	0	116	318	
5:45 PM	1	0	0	0	1	1	88	31	0	120	3	0	2	0	0	5	1	70	0	3	74	4	1	105	0	0	110	310	
Total	3	1	0	1	5	2	309	110	1	422	14	1	6	3	0	24	5	317	0	10	332	9	9	411	3	0	422	1217	
Grand Total	6	2	0	1	9	4	633	253	4	894	18	1	14	8	0	41	9	520	1	23	544	16	23	811	6	0	836	2353	
Appleton St %	66.7	22.2	0.0	11.1	0.0	0.4	70.8	28.3	0.4	0.0	43.9	2.4	34.1	19.5	0.0	1.6	94.0	0.2	4.2	0.0	53.5	1.9	2.7	94.7	0.7	0.0			
Total %	0.8	0.1	0.0	0.0	0.4	0.2	26.9	10.8	0.2	0.0	0.8	0.0	0.6	0.3	0.0	1.7	0.4	22.1	0.0	1.0	0.0	23.5	0.7	1.0	34.9	0.3	0.0	36.4	2553
Excluding Leg					12					1350						36					279						676	2553	
Cars	6	2	0	1	9	4	616	251	4	879	18	1	14	8	0	41	9	512	1	23	540	16	23	791	6	0	838	2306	
% Cars	100.0	100.0	0.0	100.0	0.0	100.0	97.3	99.2	100.0	97.9	100.0	100.0	100.0	100.0	0.0	100.0	98.6	98.5	100.0	100.0	0.0	100.0	97.5	100.0	0.0	0.0	97.7	98.0	
Excluding Leg					12					1322						36					277						659	2306	
Heavy Vehicles	0	0	0	0	0	0	17	2	0	19	0	0	0	0	0	0	0	8	0	0	8	0	0	20	0	0	20	47	
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.8	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	1.4	0.0	0.0	2.5	0.0	2.3	2.0	
Excluding Leg					0					26						5					2						17	47	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Driveway					Massachusetts Avenue					Appleton Place					Appleton Street					Massachusetts Avenue					Total		
	from North					from East					from South					from Southwest					from West							
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total			
5:00 PM	1	0	0	0	1	1	77	39	1	118	2	0	2	0	4	1	74	0	1	76	3	0	89	0	0	92	291	
5:15 PM	0	1	0	0	1	0	66	20	0	86	5	1	0	1	6	2	86	0	2	90	1	3	109	1	0	114	298	
5:30 PM	1	0	0	0	1	0	78	20	0	98	4	0	4	2	10	1	87	0	4	92	1	5	108	2	0	116	318	
5:45 PM	1	0	0	0	1	1	88	31	0	120	3	0	2	0	5	1	70	0	3	74	4	1	105	0	0	110	310	
Total Volume	3	1	0	1	5	2	309	110	1	422	14	1	8	3	26	5	317	0	10	332	9	9	411	3	0	432	1217	
% Approaching Total	60.0	20.0	0.0	20.0	0.0	0.5	73.2	26.1	0.2	0.0	53.8	1.8	30.8	11.5	0.0	1.5	95.5	0.0	1.0	0.0	2.1	2.1	95.1	0.7	0.0			
Hour	0.750	0.250	0.000	0.250	0.000	0.625	0.878	0.705	0.250	0.879	0.700	0.150	0.500	0.175	0.000	0.625	0.911	0.000	0.625	0.000	0.902	0.563	0.450	0.943	0.375	0.000	0.931	0.957
Cars	3	1	0	1	5	2	301	109	1	413	14	1	8	3	26	5	315	0	10	330	9	9	401	3	0	422	1196	
Cars %	100.0	100.0	0.0	100.0	0.0	100.0	97.4	99.1	100.0	97.9	100.0	100.0	100.0	100.0	0.0	100.0	99.4	0.0	100.0	0.0	99.4	100.0	100.0	0.0	0.0	97.7	98.3	
Heavy Vehicles	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	0	2	0	0	2	0	0	10	0	0	10	21	
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.9	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.0	2.4	0.0	0.0	2.3	1.7	
Cars Excl. Leg	3	1	0	1	5	2	301	109	1	413	14	1	8	3	26	5	315	0	10	330	9	9	401	3	0	422	1196	
Heavy Excl. Leg	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	0	2	0	0	2	0	0	10	0	0	10	21	
Total Excl. Leg	3	1	0	1	5	2	309	110	1	422	14	1	8	3	26	5	317	0	10	332	9	9	411	3	0	432	1217	
Cars Excl. Leg					6					731					15					122						322	1196	
Heavy Excl. Leg					0					17					0				1							8	21	
Total Excl. Leg					6					748					15					123						330	1217	

PDI File #: 207450 AA
 Location: N: Driveway S: Appleton Place
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM
 Class



	Cars									
	Driveway		Massachusetts Avenue				Appleton Place			
	from North		from East				from South			
	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Left
4:00 PM	1	0	0	1	82	38	2	0	2	0
4:15 PM	1	0	0	1	69	30	0	0	1	0
4:30 PM	1	0	0	1	81	27	0	0	1	0
4:45 PM	0	0	0	1	83	47	2	0	2	0
Total	3	0	0	4	315	142	4	0	6	0
5:00 PM	1	0	0	1	72	38	2	0	2	0
5:15 PM	0	0	0	0	66	20	0	0	1	0
5:30 PM	1	0	0	0	77	20	0	0	2	0
5:45 PM	1	0	0	1	88	31	0	0	2	0
Total	3	0	0	2	301	109	2	0	5	0
Grand Total	8	0	0	6	616	251	18	0	14	0
Approach %	66.7	22.2	0.0	11.1	0.0	0.0	43.9	2.4	34.1	19.5
Total %	0.3	0.1	0.0	0.0	0.0	0.0	0.8	0.0	0.6	0.3
Existing Leg. Total	1722									

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Cars									
	Driveway		Massachusetts Avenue				Appleton Place			
	from North		from East				from South			
	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Left
5:00 PM	1	0	0	1	72	38	2	0	2	0
5:15 PM	0	0	0	0	66	20	0	0	1	0
5:30 PM	1	0	0	0	77	20	0	0	2	0
5:45 PM	1	0	0	1	88	31	0	0	2	0
Total volume	3	0	0	2	301	109	2	0	5	0
% Approach Total	60.0	20.0	0.0	20.0	0.0	0.0	53.8	3.8	30.8	13.5
PHF	0.750	0.750	0.000	0.250	0.000	0.625	0.700	0.250	0.500	0.650
Existing Leg. Total	3	0	0	2	301	109	2	0	5	0
Total	1144									



**PRECISION
DATA**
INDUSTRIALS, LLC

46 Morton Street, Frammingham, MA 01702
Office 508-875-0100 Fax 508-875-0118
Email datarequests@pdic.com

Class	Heavy Vehicles (Commercial, Public, Single-Unit Trucks, and Buses)																																		
	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue										
	from North						from East						from South						from Southwest						from West										
	Right	Left	Thru	U-Turn	Total		Right	Thru	Left	U-Turn	Total		Right	Thru	Left	U-Turn	Total		Right	Thru	Left	U-Turn	Total		Right	Thru	Left	U-Turn	Total						
4:00 PM	0	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	3	0	0	3	8				
4:15 PM	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	1	4				
4:30 PM	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	1	5				
4:45 PM	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	3	0	0	3	7				
Total	0	0	0	0	0	0	9	1	0	0	10	0	0	0	0	0	0	0	6	0	0	0	0	6	0	0	10	0	0	10	26				
5:00 PM	0	0	0	0	0	0	5	1	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	9				
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	3				
5:30 PM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	3	0	0	3	5				
5:45 PM	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	1	4				
Total	0	0	0	0	0	0	8	1	0	0	9	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	10	0	0	10	21				
Grand Total	0	0	0	0	0	0	17	2	0	0	19	0	0	0	0	0	0	0	8	0	0	0	0	8	0	0	20	0	0	20	47				
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	89.5	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0					
Total %	0.0	0.0	0.0	0.0	0.0	0.0	16.2	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.0	0.0	0.0	0.0	0.0	0.0	0.0	47.6	0.0	0.0	0.0	42.5					
Exiting (mg total)	0					20					5					2					17					47									
Buses	0	0	0	0	0	0	13	1	0	0	14	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	17	0	0	17	33				
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	76.5	50.0	0.0	0.0	73.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	85.0	0.0	0.0	85.0	70.2				
Exiting (mg total)	0					18					0					13					33														
Single-unit Trucks & Single-unit	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	5	0	0	0	0	5	0	0	2	0	0	2	10				
% Single-unit	0.0	0.0	0.0	0.0	0.0	0.0	17.8	0.0	0.0	0.0	15.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	0.0	0.0	0.0	0.0	62.5	0.0	0.0	10.0	0.0	0.0	10.0	21.3				
Exiting (mg total)	0					7					0					0					10														
Residential Trucks & Recreational	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	1	4				
Exiting (mg total)	0					5.9					50.0					0.0					0.0					5.0					8.5				
Total (mg total)	0					21					1					0					1					1					1				

4:15 PM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total
	from North						from East						from South						from Southwest						from West						
	Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total			
4:15 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	3			
4:30 PM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	3			
4:45 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	2	0	0	0	2	0	0	3	0	3			
5:00 PM	0	0	0	0	0	0	0	5	1	0	0	6	0	0	0	0	0	0	4	0	0	0	4	0	0	8	0	8			
Total Volume	0	0	0	0	0	0	0	12	1	0	0	13	0	0	0	0	0	0	4	0	0	0	4	0	0	10	0	27			
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92.3	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0			
AVT	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.800	0.250	0.000	0.000	0.538	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.500	0.000	0.000	0.833	0.000	0.000	0.833	0.750	
Buses	0	0	0	0	0	0	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	18		
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	83.3	0.0	0.0	0.0	76.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.0	0.0	0.0	80.0	66.7			
Single Unit Trucks	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3	0	0	0	3	0	2	0	0	2	6		
Single Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	0.0	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0	0.0	75.0	0.0	0.0	0.0	75.0	0.0	20.0	0.0	0.0	20.0	22.2		
Articulated Trucks	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	1	5		
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	100.0	0.0	0.0	15.4	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	11.1		
Buses	0	0	0	0	0	0	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	18			
Single Unit Trucks	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3	0	0	0	3	0	2	0	0	2	6		
Articulated Trucks	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	5		
Total Approaches	0	0	0	0	0	0	0	12	1	0	0	13	0	0	0	0	0	0	4	0	0	0	4	0	0	10	0	27			
Buses	0	0	0	0	0	0	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	18			
Single Unit Trucks	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3	0	0	0	3	0	2	0	0	2	6		
Articulated Trucks	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	5		
Total Ending Inv.	0	0	0	0	0	0	0	12	1	0	0	13	0	0	0	0	0	0	4	0	0	0	4	0	0	10	0	27			
Buses	0	0	0	0	0	0	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	18			
Single Unit Trucks	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3	0	0	0	3	0	2	0	0	2	6		
Articulated Trucks	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	1	5		
Total Ending Inv.	0	0	0	0	0	0	0	12	1	0	0	13	0	0	0	0	0	0	4	0	0	0	4	0	0	10	0	27			

PDI File #: 207450 AA
 Location: N: Driveway S: Appleton Place
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM
 Class:



Class	Buses																														
	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						
	from North						from East						from South						from Southwest						from West						
	Right	Through	Thru	Left	U-Turn	Total	Right	Through	Left	U-Turn	Total	Right	Through	Left	Hard Left	U-Turn	Total	Right	Through	Left	Hard Left	U-Turn	Total	Right	Through	Left	U-Turn	Total	Total		
4:00 PM	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	
4:15 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	8	9
4:30 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3
4:45 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	4
Total	0	0	0	0	0	0	0	7	1	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	9	17	
5:00 PM	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	6
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	4
5:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3
Total	0	0	0	0	0	0	0	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	16
Grand Total	0	0	0	0	0	0	0	13	1	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0	0	17	33
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92.9	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.4	3.0	0.0	0.0	42.4	0.0	0.0	0.0	0.0	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.5	0.0	0.0	51.5	
Existing Leg Total	0						19						0						1						13						33

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total	
	from North						from East						from South						from Southwest						from West							
	Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Hard Left	Thru	Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total		
4:15 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
4:30 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3	
4:45 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	4	
5:00 PM	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	6	
Total Volume	0	0	0	0	0	0	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	18	
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.425	0.000	0.000	0.000	0.425	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.667	0.000	0.000	0.667	0.750
Existing Leg	0	0	0	0	0	0	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	18	
Existing Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	18	
Total	0						10						10						0						8						36	

PDI File #: 207450 AA
 Location: N: Driveway S: Appleton Place
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM
 Class:



Single-Unit Trucks

Class	Single-Unit Trucks																			Total											
	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						
	from North						from East						from South						from Southwest						from West						
	Right	Left	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	1	0	0	1	0	1	
Total	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	3	0	0	0	5	0	0	1	0	0	1	0	8	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Total	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	1	
Grand Total	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	5	0	0	0	5	0	0	2	0	0	2	0	10	
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	0.0	0.0	0.0	30.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	50.0	0.0	0.0	20.0	0.0	0.0	20.0	0.0	10.0	
Waiting (s) Total	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	5	0	0	0	5	0	0	1	0	0	1	0	10	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM																																
	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total	
	from North						from East						from South						from Southwest						from West							
	Right	Rear Right	Thru	Left	U-Turn	Total	Right	Thru	Rear Left	Left	U-Turn	Total	Right	Thru	Left	Rear Left	U-Turn	Total	Rear Right	Rear Left	Thru	Left	U-Turn	Total	Rear Right	Right	Thru	Left	U-Turn	Total		
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	2	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	1	0	1	8	
Total Volume	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	5	0	0	0	5	0	0	0	1	0	1	8	
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.625	0.000	0.000	0.250	0.000	0.250	0.887		
Entering (s)	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	5	0	0	0	5	0	0	1	0	0	1	8	
Linking (s)	0	0	0	0	0	0	0	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	8	
Total	0	0	0	0	0	0	0	8	0	0	0	8	0	0	0	0	0	0	0	5	0	0	0	5	0	0	1	0	0	3	16	

PDI File #: 207450 AA
 Location: N: Driveway S: Appleton Place
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM
 Class:



Articulated Trucks

	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue					
	from North						from East						from South						from Southwest						from West					
	Right	Rear Right	Thru	Left	U-Turn	Total	Right	Thru	Rear Left	Left	U-Turn	Total	Right	Thru	Left	Rear Left	U-Turn	Total	Rear Right	Rear Left	Thru	Left	U-Turn	Total	Rear Right	Right	Thru	Left	U-Turn	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
Grand Total	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	4
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Turn %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	25.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	25.0	0.0	0.0	25.0
Exiting Leg Total	0						2						0						1						1					

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at

4:15 PM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue					
	from North						from East						from South						from Southwest						from West					
	Right	Rear Right	Thru	Left	U-Turn	Total	Right	Thru	Rear Left	Left	U-Turn	Total	Right	Thru	Left	Rear Left	U-Turn	Total	Rear Right	Rear Left	Thru	Left	U-Turn	Total	Rear Right	Right	Thru	Left	U-Turn	Total
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exit	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.125
Exiting Leg	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
Exiting Leg	0						1						0						1						1					
Total	0						2						0						1						1					

PDI File #: 207450 AA
 Location: N: Driveway S: Appleton Place
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM
 Class:



Bicycles (on Roadway and Crosswalks)

Class:		Bicycles (On Roadway and Crosswalks)																																				Total			
		Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total									
		from North						from East						from South						from Southwest						from West															
		W	SW	S	SE	E	NE	W	SW	S	SE	E	NE	W	SW	S	SE	E	NE	W	SW	S	SE	E	NE	W	SW	S	SE	E	NE		W	SW	S	SE	E	NE			
4:00 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:15 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM		0	0	0	0	0	0	1	1	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM		0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM		0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	1	1	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total		0	0	0	0	0	0	1	1	2	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total %		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Entering Leg Total		2						2						0						0						5						9									

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Driveway										Massachusetts Avenue										Appleton Place										Appleton Street										Massachusetts Avenue										Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	from North										from East										from South										from Southwest										from West																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	Right	Thru	Left	U-Turn	Other	Other	Other	Other	Other	Other	Right	Thru	Left	U-Turn	Other	Other	Other	Other	Other	Other	Right	Thru	Left	U-Turn	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other		Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other

PDI File #: 207450 AA
 Location: N: Driveway S: Appleton Place
 Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM
 Class:



Pedestrians

Class:	PCEs/Day																																	Total								
	Driveway							Massachusetts Avenue							Appleton Place							Appleton Street							Massachusetts Avenue													
	from North							from East							from South							from Southwest							from West													
	Count	Volume	Flow	Rate	Rate	Rate	Rate	Count	Volume	Flow	Rate	Rate	Rate	Rate	Count	Volume	Flow	Rate	Rate	Rate	Rate	Count	Volume	Flow	Rate	Rate	Rate	Count	Volume	Flow	Rate	Rate	Rate									
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	2	3	0	0	0	0	0	4	2	8	0	0	0	0	0	0	0	14		
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2	1	3	0	0	0	0	0	3	1	4	0	0	0	0	0	0	0	17		
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	5			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	22			
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	7	0	0	0	0	0	8	3	9	0	0	0	0	0	8	3	11	0	0	0	0	0	0	1	1	48
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7			
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	0	2	0	0	0	0	0	1	1	10		
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	2	3	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	5		
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	3	7	0	0	0	0	0	2	2	4	0	0	0	0	0	2	2	4	0	0	0	0	0	0	1	1	32
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	4	14	0	0	0	0	0	0	0	0	0	0	0	0	0	10	5	15	0	0	0	0	0	2	2	80	
Approach N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12.5	5	17.5	0	0	0	0	0	0	10	6.25	18.75	0	0	0	0	12.5	6.25	18.75	0	0	0	0	0	0	2.5	2.5	
Existing Leg Total	30							11							13							15							2							80						

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Driveway							Massachusetts Avenue							Appleton Place							Appleton Street							Massachusetts Avenue							Total						
	from North							from East							from South							from Southwest							from West													
	Count	Volume	Flow	Rate	Rate	Rate	Rate	Count	Volume	Flow	Rate	Rate	Rate	Rate	Count	Volume	Flow	Rate	Rate	Rate	Rate	Count	Volume	Flow	Rate	Rate	Rate	Count	Volume	Flow	Rate	Rate	Rate									
4:00 PM	0	0	0	0	0	0	3	1	4	0	0	0	0	0	1	0	1	0	0	0	0	1	2	3	0	0	0	0	0	4	2	4	0	0	0	0	0	0	0	14		
4:15 PM	0	0	0	0	0	0	3	2	3	0	0	0	0	0	0	4	1	5	0	0	0	0	2	1	3	0	0	0	0	0	1	4	0	0	0	0	0	0	17			
4:30 PM	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	5				
4:45 PM	0	0	0	0	0	0	6	2	8	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	12			
Total Volume	0	0	0	0	0	0	22	8	20	0	0	0	0	0	6	1	7	0	0	0	0	0	6	3	9	0	0	0	0	0	8	3	11	0	0	0	0	0	3	1	48	
N Approaches Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100		
PM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Entering Leg	0	0	0	0	0	0	0	12	8	20	0	0	0	0	0	6	1	7	0	0	0	0	0	6	3	9	0	0	0	0	0	8	3	11	0	0	0	0	0	0	1	48
Exiting Leg	0	0	0	0	0	0	0	0	20	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	48
Total	0	0	0	0	0	0	0	0	20	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	96

PDI File #: 207450 BBCC
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway
 Location: E: Massachusetts Avenue W: Massachusetts Avenue
 City, State: Arlington, MA
 Client: Nitsch Eng/B Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM
 Class:



Cars and Heavy Vehicles (Combined)

CLASS:		Cars and Heavy Vehicles (Continued)																														
		Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						
		from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Hard Right	Thru	Left	U-Turn	Total	Hard Right	Thru	Left	Hard Left	U-Turn	Total	Total		
4:00 PM	26	1	5	0	0	32	1	3	0	0	0	4	1	22	95	2	0	0	120	1	0	0	0	0	1	0	122	1	23	0	145	303
4:15 PM	16	2	6	0	0	24	1	1	0	1	0	3	0	16	82	0	0	0	98	2	0	1	0	0	3	1	113	0	43	0	159	285
4:30 PM	18	0	15	0	0	33	2	5	0	0	0	7	2	13	96	0	0	0	111	0	0	0	0	0	0	1	115	1	44	0	151	302
4:45 PM	27	0	6	0	0	33	1	4	0	0	0	5	1	18	94	0	0	0	113	0	0	0	0	0	0	0	132	1	21	0	154	308
Total	87	3	32	0	0	122	5	13	0	1	0	22	4	69	367	2	0	0	442	3	0	1	0	0	4	2	482	3	121	0	608	1198
5:00 PM	18	0	11	0	0	29	3	4	0	2	0	9	1	24	96	0	0	0	121	0	0	1	0	0	1	0	116	3	50	0	169	329
5:15 PM	15	3	8	0	0	26	0	1	0	1	0	2	1	23	72	0	0	0	96	2	0	0	1	0	3	1	139	1	55	0	196	321
5:30 PM	13	0	8	0	0	21	0	4	0	3	0	7	0	17	82	0	0	0	99	2	0	1	0	0	3	1	148	1	49	1	200	330
5:45 PM	19	3	11	0	0	33	2	3	0	0	0	5	0	20	102	3	0	0	125	4	0	1	0	0	5	0	137	2	40	0	178	345
Total	65	4	38	0	0	107	5	12	0	6	0	23	2	84	352	3	0	0	441	8	0	3	1	0	12	2	540	6	194	1	743	1326
Grand Total	152	7	70	0	0	229	10	25	0	10	0	45	6	153	719	5	0	0	883	11	0	4	1	0	16	4	1022	9	315	1	1331	2524
Approach %	66.4	3.1	30.6	0.0	0.0		22.2	55.6	0.0	22.2	0.0		0.7	17.3	81.4	0.6	0.0		68.8	0.0	25.0	6.3	0.0		0.3	75.6	0.7	23.3	0.1			
Total %	6.0	0.3	2.8	0.0	0.0		0.4	1.0	0.0	0.4	0.0		0.2	6.1	28.5	0.2	0.0		0.4	0.0	0.2	0.0	0.0		0.2	40.3	0.4	12.5	0.0			
Existing Leg Total						482						15						1113						14						838	2574	
Cars	152	7	70	0	0	229	10	25	0	10	0	45	6	150	698	5	0	0	859	11	0	4	1	0	16	4	999	9	312	1	1325	2472
% Cars	100.0	100.0	100.0	0.0	0.0	100.0	100.0	100.0	0.0	90.0	0.0	97.8	100.0	98.0	97.1	100.0	0.0	99.2	100.0	0.0	100.0	0.0	100.0		100.0	97.7	100.0	99.0	100.0	98.1		
Existing Leg Total						476						15						1089						16						877	2433	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	1	0	1	0	3	21	0	0	0	24	0	0	0	0	0	0	0	23	0	3	0	26	51
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	2.2	0.0	2.0	2.5	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	1.0	0.0	1.9	2.0
Existing Leg Total						0						0						24						0						21	51	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at

5:00 PM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total	
	from North						from Northeast						from East						from South						from West							
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Hard Right	Thru	Left	U-Turn	Total					
5:00 PM	18	0	11	0	0	29	3	4	0	2	0	9	1	24	96	0	0	121	0	0	1	0	0	1	0	116	3	50	0	169	329	
5:15 PM	15	1	8	0	0	24	0	1	0	1	0	2	1	22	72	0	0	96	2	0	0	1	0	3	1	139	1	55	0	196	321	
5:30 PM	13	0	8	0	0	21	0	4	0	3	0	7	0	17	82	0	0	99	2	0	1	0	0	3	1	148	1	49	1	200	330	
5:45 PM	19	3	11	0	0	33	2	3	0	0	0	5	0	20	102	3	0	125	4	0	1	0	0	5	0	137	2	40	0	179	345	
Total Volume	65	4	38	0	0	107	5	12	0	6	0	23	2	84	352	3	0	441	8	0	3	1	0	12	2	540	6	194	1	743	1326	
% Approach Total	60.7	3.2	35.5	0.0	0.0		21.7	52.2	0.0	26.1	0.0		0.5	19.0	79.3	0.7	0.0		66.7	0.0	25.0	6.3	0.0		0.3	72.7	0.4	26.1	0.1			
Flow	0.955	0.333	0.864	0.000	0.000	0.811	0.417	0.750	0.000	0.500	0.000	0.639	0.500	0.875	0.543	0.250	0.000	0.882	0.500	0.000	0.750	0.250	0.000	0.600	0.500	0.912	0.500	0.882	0.250	0.929	0.958	
Cars	65	4	38	0	0	107	5	12	0	5	0	22	2	82	340	3	0	427	8	0	3	1	0	12	2	530	6	193	1	732	1300	
Cars %	100.0	100.0	100.0	0.0	0.0	100.0	100.0	100.0	0.0	83.3	0.0	95.7	100.0	97.6	96.6	100.0	0.0	96.8	100.0	0.0	100.0	100.0	0.0	100.0	100.0	98.1	100.0	99.5	100.0	98.5		
Heavy Vehicles	0	0	0	0	0	0	0	0	0	1	0	1	0	2	12	0	0	14	0	0	0	0	0	0	0	0	1	0	0	1	11	26
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7	0.0	4.3	0.0	2.4	3.4	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.5	0.0	1.5	2.0	
Cars Enter Leg	65	4	38	0	0	107	5	12	0	5	0	22	2	82	340	3	0	427	8	0	3	1	0	12	2	530	6	193	1	732	1300	
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	1	0	1	0	2	12	0	0	14	0	0	0	0	0	0	0	0	1	0	1	11	26	
Total Entering Leg	65	4	38	0	0	107	5	12	0	6	0	23	2	84	352	3	0	441	8	0	3	1	0	12	2	540	6	194	1	743	1326	
Cars Entering Leg						283						4					581						9							419	1300	
Heavy Entering Leg						0						0					11						0							12	26	
Total Entering Leg						283						4					592						9							431	1326	

PDI File #: 207450 B8CC
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway
 Location: E: Massachusetts Avenue W: Massachusetts Avenue
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM
 Class:



Class:		Cars																																																			
		Forest Street										Mirak Mill Park West Driveway										Massachusetts Avenue										Burton Street										Massachusetts Avenue											
		from North					from Northeast					from East					from South					from West																															
		Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Thru Right	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Left	U-Turn	Total	Right	Thru Right	Thru	Left	U-Turn	Total	Right	Thru Right	Thru	Left	U-Turn	Total	Total																						
4:00 PM		26	1	3	0	0	30	1	3	0	0	0	4	1	21	93	2	0	117	1	0	0	0	0	1	0	118	1	23	0	142	296																					
4:15 PM		16	2	6	0	0	24	1	1	0	1	0	3	0	16	80	0	0	96	2	0	1	0	0	3	1	110	0	82	0	151	279																					
4:30 PM		18	0	15	0	0	33	2	5	0	0	0	7	2	13	93	0	0	108	0	0	0	0	0	0	1	113	1	84	0	149	297																					
4:45 PM		27	0	8	0	0	35	1	4	0	3	0	8	1	18	92	0	0	111	0	0	0	0	0	0	0	128	1	20	0	149	301																					
Total		87	3	32	0	0	122	5	13	0	4	0	22	4	68	358	2	0	432	3	0	1	0	0	4	2	468	3	119	0	583	1178																					
5:00 PM		18	0	11	0	0	29	3	4	0	2	0	9	1	22	90	0	0	113	0	0	1	0	0	1	0	113	1	50	0	168	318																					
5:15 PM		15	1	8	0	0	24	0	1	0	1	0	2	1	23	71	0	0	95	2	0	0	1	0	3	1	136	1	55	0	193	317																					
5:30 PM		13	0	8	0	0	21	0	4	0	2	0	6	0	17	81	0	0	98	2	0	1	0	0	3	1	146	1	48	1	197	325																					
5:45 PM		19	3	11	0	0	33	2	3	0	0	0	5	0	20	86	3	0	121	4	0	1	0	0	5	0	135	1	40	0	176	340																					
Total		65	4	38	0	0	107	5	12	0	5	0	22	2	82	340	3	0	427	8	0	3	1	0	12	2	530	6	193	1	732	1300																					
Grand Total		152	7	70	0	0	229	10	25	0	9	0	44	6	150	698	5	0	859	11	0	4	1	0	16	4	999	9	312	1	1325	2473																					
Approach %		66.4	3.1	30.6	0.0	0.0		22.7	56.8	0.0	20.5	0.0		0.7	17.5	81.3	0.6	0.0		68.8	0.0	25.0	6.3	0.0		0.3	75.4	0.7	23.5	0.1																							
Total %		6.1	0.3	2.8	0.0	0.0	9.3	0.4	1.0	0.0	0.4	0.0	1.8	0.2	6.4	28.2	0.2	0.0	34.7	0.4	0.0	0.2	0.0	0.0	0.8	0.2	40.4	0.4	12.8	0.0	53.8																						
Leading Leg Total		478										15										1089										16										877										2473	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Thru Right	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Left	U-Turn	Total	Right	Thru Right	Thru	Left	U-Turn	Total	Right	Thru Right	Thru	Left	U-Turn	Total		
5:00 PM	18	0	11	0	0	29	3	4	0	2	0	9	1	22	90	0	0	113	0	0	1	0	0	1	0	113	3	50	0	168	318
5:15 PM	15	1	8	0	0	24	0	1	0	1	0	2	1	23	71	0	0	95	2	0	0	1	0	3	1	136	1	55	0	193	317
5:30 PM	13	0	8	0	0	21	0	4	0	2	0	6	0	17	81	0	0	99	2	0	1	0	0	3	1	146	1	48	1	197	325
5:45 PM	19	3	11	0	0	33	2	3	0	0	0	5	0	20	98	3	0	121	4	0	1	0	0	5	0	135	1	40	0	176	340
Total Volume	65	4	38	0	0	107	5	12	0	5	0	22	2	82	340	3	0	427	8	0	3	1	0	12	2	530	6	193	1	732	1300
% Approach to Total	60.7	3.7	35.5	0.0	0.0		22.7	56.5	0.0	22.7	0.0		0.5	19.2	79.6	0.7	0.0		66.7	0.0	25.0	6.3	0.0		0.3	72.4	0.8	26.4	0.1		
ave	0.855	0.333	0.864	0.000	0.000	0.811	0.417	0.750	0.000	0.625	0.000	0.611	0.900	0.891	0.867	0.290	0.000	0.862	0.500	0.000	0.750	0.250	0.000	0.600	0.500	0.908	0.500	0.877	0.250	0.829	0.956
Following Leg	65	4	38	0	0	107	5	12	0	5	0	22	2	82	340	3	0	427	8	0	3	1	0	12	2	530	6	193	1	732	1300
Following Leg						283						30					563						8								
Total						390						30					1008						21								

PDI File #: 207450 BBCC
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway
 Location: E: Massachusetts Avenue W: Massachusetts Avenue
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM
 Class:



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

Class	Heavy Vehicles Combined (Buses, Single-Unit Trucks, Articulated Trucks)																															
	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue							
	from North						from Northeast						from East						from South						from West							
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total						
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	4	0	0	0	4	7				
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	1	0	4	8				
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	0	2	5				
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	1	0	5	9				
Total	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	10	0	0	0	0	0	0	11	0	2	0	13	25				
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	3	0	0	0	3	11				
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	0	3	4				
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	2	0	1	0	3	5				
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	0	2	6				
Total	0	0	0	0	0	0	0	0	1	0	1	0	2	1	0	4	0	0	0	0	0	0	10	0	1	0	11	26				
Grand Total	0	0	0	0	0	0	0	0	1	0	1	0	3	21	0	24	0	0	0	0	0	0	23	0	3	0	26	51				
Approach %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	12.5	87.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	88.5	0.00	11.5	0.00	0.00	0.00					
Total %	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00	5.9	41.2	0.00	47.1	0.00	0.00	0.00	0.00	0.00	0.00	45.1	0.00	5.9	0.00	51.0	0.00					
Existing Leg Total	0						0						0						0						0						23	51
Buses	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	18	0	0	0	18	34				
% Buses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	76.2	0.00	66.7	0.00	0.00	0.00	0.00	0.00	0.00	78.3	0.00	0.00	0.00	66.7	0.00					
Existing Leg Total	0						0						0						0						0						16	34
Single-Unit Trucks	0	0	0	0	0	0	0	0	1	0	1	0	3	4	0	7	0	0	0	0	0	0	4	0	3	0	7	15				
% Single-Unit Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	100.00	19.0	0.00	100.00	19.0	0.00	29.2	0.00	0.00	0.00	0.00	0.00	0.00	17.4	0.00	100.00	0.00	26.9	29.4				
Existing Leg Total	0						0						0						0						0						4	15
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	1	2				
% Articulated Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.8	0.00	4.2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.3	0.00	0.00	0.00	3.8	3.9				
Existing Leg Total	0						0						0						0						0						1	2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	U-Turn	Total		Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		Right	Thru	Left	U-Turn	Total		Right	Thru	Left	U-Turn	Total			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	3	0	1	0	4	6
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	2	0	0	0	2	5
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	4	0	1	0	5	7
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	3	0	0	0	3	11
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	2	13	0	0	15	0	0	0	0	0	0	0	0	12	0	2	0	14	29
% Approach Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.3	86.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	85.7	0.00	14.3	0.00	0.00	0.00
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.542	0.000	0.000	0.469	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.600	0.750	0.000	0.500	0.000	0.700	0.858
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	8	0	0	0	8	18
% Buses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	76.9	0.00	0.00	66.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66.7	0.00	0.00	0.00	57.1	62.1
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	0	0	0	3	0	2	0	5	9
% Single-Unit Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.0	15.4	0.00	0.00	26.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.0	0.00	100.00	0.00	35.7	31.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	2
% Articulated Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.7	0.00	6.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.3	0.00	0.00	0.00	7.1	6.9
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	8	0	0	0	8	18
% Buses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	76.9	0.00	0.00	66.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66.7	0.00	0.00	0.00	57.1	62.1
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	0	0	0	3	0	2	0	5	9
% Single-Unit Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.0	15.4	0.00	0.00	26.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.0	0.00	100.00	0.00	35.7	31.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	2
% Articulated Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.7	0.00	6.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.3	0.00	0.00	0.00	7.1	6.9
Total Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	2	13	0	0	15	0													

PDI File #: 207450 BBCC
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway
 Location: E: Massachusetts Avenue W: Massachusetts Avenue
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM
 Class:



Buses

Class	05053																															
	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue							
	from North						from Northeast						from East						from South						from West							
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total			
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3		
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	5		
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	9		
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	2		
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3		
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2		
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	0	9		
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	0	18		
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.1	0.0	0.0	47.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.9		
Excluding Leg. Total	0						0						18						0						18						34	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Hard Right	Thru	Left	Hard Left	U-Turn	Total	Total	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	3	0	0	0	3	5
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	2	0	0	0	2	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	2	0	0	0	2	6
Total volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	8	0	0	0	8	18
to approach total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.667	0.000	0.000	0.000	0.667	0.750
Excluding Leg.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	8	0	0	0	8	18
Total	0						0						18						0						18						36

PDI File #: 207450 BBCC
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway
 Location: E: Massachusetts Avenue W: Massachusetts Avenue
 City, State: Arlington, MA
 Client: Nitsch Eng/B. Zimolke
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM
 Class:



Single-Unit Trucks

Class	Forest Street														Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total
	from North						from Northeast						from East						from South						from West														
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Hard Left	Right	Thru	Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Hard Right	Thru	Left	U-Turn	Total	Right	Thru	Hard Left	Left	U-Turn	Total								
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	2						
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	2							
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1							
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3	3								
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	0	0	0	0	0	0	3	0	2	0	5	7	7							
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	3	0	0	0	0	0	0	0	1	0	0	1	4	8							
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2	2							
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2							
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	2	1	0	0	0	5	0	0	0	0	0	0	0	1	0	1	0	2	8							
Grand Total	0	0	0	0	0	0	0	0	0	1	0	1	0	3	4	0	0	0	7	0	0	0	0	0	0	0	4	0	3	0	7	15							
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	42.9	57.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.1	0.0	42.9	0.0	0.0								
Turn %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0	6.7	0.0	0.0	20.0	26.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.7	0.0	20.0	0.0	46.7								
Parking (sq. Total)	6						0						5						0						10						15								

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Forest Street					Mirak Mill Park West Driveway					Massachusetts Avenue					Burton Street					Massachusetts Avenue					Total		
	from North					from Northeast					from East					from South					from West							
	Right	Thru	Left	Hard Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Hard Left	Left	U-Turn		Total	
	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru		Hard Left	Left
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	1	0	0	1	4
Total Volume	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	0	3	0	2	0	5	9
% Approach Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.25	0.00	0.00	0.333	0.00	0.00	0.000	0.00	0.00	0.00	0.375	0.000	0.500	0.000	0.417	0.556
Flow	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2500	0.5000	0.0000	0.0000	0.3333	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3750	0.0000	0.5000	0.0000	0.4167	0.5556
Exhib. Eng.	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	0	3	0	2	0	5	9
Exhib. Eng.	4					0					7					0					7					18		
Total	4					0					7					0					7					18		

PDI File #: 207450 BBCC
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway
 Location: E: Massachusetts Avenue W: Massachusetts Avenue
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM
 Class:



Articulated Trucks

Class	At Redwood Avenue																									
	Forest Street					Mirak Mill Park West Driveway					Massachusetts Avenue					Burton Street					Massachusetts Avenue					
	from North					from Northeast					from East					from South					from West					
	Right	Thru	Left	Hand Left	U-Turn	Total	Hand Right	Right	Thru	Left	Hand Left	U-Turn	Total	Hand Right	Right	Thru	Left	U-Turn	Total	Hand Right	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	2
Approach W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
Total W	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0
Ending Leg Total	0					0					1					0					1					2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM		Forest Street					Mirak Mill Park West Driveway					Massachusetts Avenue					Burton Street					Massachusetts Avenue					Total
		from North					from Northeast					from East					from South					from West					
		Right	Thru	Left	Hand Left	U-Turn	Right	Thru	Left	Hand Left	U-Turn	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:15 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
4:45 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM		0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume		0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	2
W Approach Total		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
PHF		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2500	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2500	0.0000	0.0000	0.2500	0.5000
Ending Leg		0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	2
Ending Leg		0					0					1					0					1					2
Total		0					0					2					0					2					4

PDI File #: 207450 BBCC
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway
 Location: E: Massachusetts Avenue W: Massachusetts Avenue
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM
 Class:



Bicycles (on Roadway and Crosswalks)

Class:	Bicycles (on Roadway and Crosswalks)																																																		
	Forest Street										Mirak Mill Park West Driveway										Massachusetts Avenue										Burton Street										Massachusetts Avenue										Total
	from North										from Northeast										from East										from South										from West										
	Right	Thru	Left	U-Turn	Other	Right	Thru	Left	U-Turn	Other	Right	Thru	Left	U-Turn	Other	Right	Thru	Left	U-Turn	Other	Right	Thru	Left	U-Turn	Other	Right	Thru	Left	U-Turn	Other	Right	Thru	Left	U-Turn	Other	Right	Thru	Left	U-Turn	Other											
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
5:00 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6		
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6		
Grand Total	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10		
Approach %	100	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100		
Total %	100	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100		
Entering Leg Total	0										0										3										2										5										10

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

Peak Hour Analysis from 04:00 PM to 05:00 PM begins at:																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
4:15 PM	Forest Street										Mirak Mill Park West Driveway										Massachusetts Avenue										Burton Street										Massachusetts Avenue										Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	from North										from Northeast										from East										from South										from West																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
	Right	Thru	Left	U-Turn	Other	Right	Thru	Left	U-Turn	Other	Right	Thru	Left	U-Turn	Other	Right	Thru	Left	U-Turn	Other	Right	Thru	Left	U-Turn	Other	Right	Thru	Left	U-Turn	Other	Right	Thru	Left	U-Turn	Other																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
5:00 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
Total Volume	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	9																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
% Approach Total	100	100	0	0	0	0	0	0	0	0	100	100	0	0	0	0	0	0	0	0	0	100	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
PM	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



PRECISION
DATA
ANALYTICS, LLC

45 Devon Street Framingham, MA 01702
Office: 508.875.0100 Fax: 508.275.0418
Email: data@precisiondata.com

[illegible][illegible]

PDI File #: 207450 BC
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway
 Location: E: Massachusetts Avenue W: Massachusetts Avenue
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 7:00 AM
 End Time: 9:00 AM
 Class:



Cars and Heavy Vehicles (Combined)

Class	Cars and Heavy Vehicles (Estimated)																															
	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total	
	from North			from Northeast			from East			from South			from West																			
Right	Thru	Left	Hard Left	to Turn	Total	Hard Right	Hard Left	Right	Thru	Left	Hard Left	to Turn	Total	Hard Right	Right	Thru	Left	to Turn	Total	Right	Hard Right	Thru	Left	to Turn	Total	Right	Thru	Hard Left	to Turn	Total		
7:00 AM	46	4	20	0	0	70	0	1	0	0	0	0	1	0	8	90	0	0	98	1	0	1	0	0	4	0	88	2	13	0	103	276
7:15 AM	90	8	18	1	0	117	0	0	0	0	0	0	1	6	75	0	0	82	3	0	0	0	0	3	0	106	3	10	0	119	271	
7:30 AM	53	11	14	0	0	77	0	0	0	0	0	0	0	3	29	102	1	1	135	8	0	2	0	0	10	0	97	2	22	0	121	344
7:45 AM	41	9	20	0	0	70	0	0	0	0	0	0	0	0	25	116	5	0	146	9	0	3	0	0	16	0	111	5	25	0	131	373
Total	190	27	66	1	0	284	0	1	0	0	0	0	1	4	68	383	6	1	462	23	0	10	0	0	33	0	402	12	70	0	484	1264
8:00 AM	57	1	21	0	0	79	1	0	0	1	0	0	2	2	27	124	2	0	155	0	0	0	0	0	0	1	82	4	28	0	115	351
8:15 AM	43	1	11	0	0	55	0	0	0	0	0	0	0	1	13	90	0	0	104	1	1	0	0	0	2	0	93	9	13	0	115	276
8:30 AM	31	0	10	1	0	42	0	0	0	0	0	0	0	0	14	93	0	0	107	4	0	2	1	0	7	0	103	4	13	0	120	276
8:45 AM	28	1	10	1	0	40	0	0	0	2	0	0	2	1	34	115	0	0	130	2	0	0	2	0	4	0	98	8	12	0	115	281
Total	159	3	52	2	0	216	1	0	0	3	0	0	4	4	68	422	2	0	496	7	1	2	3	0	13	1	376	21	67	0	465	1194
Gravel Total	349	30	118	3	0	500	1	1	0	3	0	0	8	8	136	805	8	1	958	30	1	12	3	0	46	1	778	33	137	0	949	2458
Approach %	69.8	6.0	23.6	0.6	0.0		20.0	20.0	0.0	60.0	0.0	0.0	0.8	0.8	14.2	84.0	0.8	0.1	65.2	2.2	26.1	6.5	0.0	0.0	0.1	82.0	3.5	14.4	0.0			
Total %	14.2	1.2	4.8	0.1	0.0	20.3	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.3	9.5	32.8	0.3	0.0	39.0	1.2	0.0	0.5	0.1	0.0	1.9	0.0	31.7	1.3	5.6	0.0	38.6	0.0
Existing Leg Total	284						284						930						39						1158						2458	
Cars	340	30	113	3	0	486	1	1	0	3	0	0	8	8	132	749	8	1	898	30	1	12	3	0	45	1	713	33	133	0	880	2314
% Cars	97.4	100.0	95.8	100.0	0.0	97.2	100.0	100.0	0.0	100.0	0.0	0.0	100.0	97.1	93.0	100.0	100.0	93.7	100.0	100.0	100.0	66.7	0.0	97.9	100.0	91.6	100.0	97.1	0.0	92.7	94.1	
Existing Leg Total	278						278						860						39						1092						2114	
Heavy Vehicles	9	0	5	0	0	14	0	0	0	0	0	0	0	4	56	0	0	60	0	0	0	1	0	1	0	0	65	0	4	0	69	144
% Heavy Vehicles	2.6	0.0	4.2	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	7.0	0.0	0.0	6.3	0.0	0.0	0.0	33.3	0.0	2.2	0.0	8.4	0.0	2.9	0.0	7.3	5.9
Existing Leg Total	8						8						70						0						66						144	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
7:30 AM	53	11	13	0	0	0	0	0	0	0	0	0	3	29	102	1	1	136	8	0	2	0	0	10	0	97	2	22	0	121	344
7:45 AM	41	9	20	0	0	0	0	0	0	0	0	0	0	25	116	5	0	146	9	0	7	0	0	16	0	111	5	25	0	131	373
8:00 AM	57	1	21	0	0	0	0	0	0	1	0	0	0	27	124	2	0	155	0	0	0	0	0	0	1	82	4	28	0	115	351
8:15 AM	43	1	11	0	0	0	0	0	0	0	0	0	0	13	90	0	0	104	1	1	0	0	0	2	0	93	9	13	0	115	276
Total Volume	194	22	65	0	0	0	0	0	0	1	0	0	6	94	432	8	1	541	18	1	9	0	0	28	1	383	20	68	0	492	1344
% Approach Total	69.0	7.8	23.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	17.4	39.9	1.5	0.2	64.3	3.6	32.1	0.0	0.0	0.0	0.2	0.2	77.8	4.1	17.9	0.0	0.0	0.0
PHF	0.851	0.500	0.774	0.000	0.000	0.000	0.889	0.250	0.000	0.000	0.250	0.000	0.500	0.810	0.871	0.600	0.250	0.873	0.500	0.250	0.521	0.000	0.000	0.438	0.250	0.863	0.556	0.786	0.000	0.872	0.901
Cars	191	22	63	0	0	0	0	0	0	0	0	0	6	93	407	8	1	515	18	1	9	0	0	28	1	347	20	85	0	453	1274
Cars %	98.5	100.0	96.9	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	98.9	94.2	100.0	100.0	95.2	100.0	100.0	100.0	0.0	0.0	100.0	100.0	90.6	100.0	96.6	0.0	92.1	94.8
Heavy Vehicles	3	0	2	0	0	0	0	0	0	0	0	0	0	1	25	0	0	26	0	0	0	0	0	0	0	36	0	3	0	39	70
Heavy Vehicles %	1.5	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	5.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.4	0.0	3.4	0.0	7.9	5.2
Cars Enter Leg	191	22	63	0	0	0	0	0	0	1	0	0	6	93	407	8	1	515	18	1	9	0	0	28	1	347	20	85	0	453	1274
Heavy Enter Leg	3	0	2	0	0	0	0	0	0	0	0	0	0	1	25	0	0	26	0	0	0	0	0	0	0	36	0	3	0	39	70
Total Entering Leg	194	22	65	0	0	0	0	0	0	1	0	0	6	94	432	8	1	541	18	1	9	0	0	28	1	383	20	88	0	492	1344
Exit Entering Leg	180						180						432						31						598						1274
Exit Exiting Leg	0						0						0						0						0						70
Total Exiting Leg	180						180						432						31						626						1344

PDI File #: 207450 BC
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway
 Location: E: Massachusetts Avenue W: Massachusetts Avenue
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 7:00 AM
 End Time: 9:00 AM
 Class:



Class	Cars																																									
	Forest Street					Mirak Mill Park West Driveway					Massachusetts Avenue					Burton Street					Massachusetts Avenue																					
	from North					from Northeast					from East					from South					from West																					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total											
7:00 AM	44	4	18	0	66	0	1	0	0	1	0	8	79	0	87	3	0	1	0	4	0	79	2	13	0	94	0	0	0	0	94	252										
7:15 AM	48	3	13	1	65	0	0	0	0	0	1	5	69	0	75	3	0	0	0	3	0	97	3	10	0	110	0	0	0	0	110	253										
7:30 AM	52	11	13	0	76	0	0	0	0	0	3	28	94	1	127	8	0	2	0	10	0	88	2	19	0	109	0	0	0	0	109	322										
7:45 AM	43	9	20	0	72	0	0	0	0	0	0	25	110	5	140	8	0	2	0	10	0	100	3	25	0	130	0	0	0	0	130	356										
Total	185	27	64	1	277	0	1	0	0	1	4	66	352	6	429	23	0	3	0	33	0	264	12	67	0	443	0	0	0	0	443	1183										
8:00 AM	57	1	19	0	77	1	0	0	1	2	2	27	118	2	149	0	0	0	0	0	1	77	4	28	0	110	0	0	0	0	110	338										
8:15 AM	41	1	11	0	53	0	0	0	0	0	1	13	85	0	99	1	1	0	0	2	0	82	9	13	0	104	0	0	0	0	104	258										
8:30 AM	30	0	10	1	41	0	0	0	0	0	0	13	86	0	99	4	0	2	1	7	0	98	4	12	0	114	0	0	0	0	114	261										
8:45 AM	27	1	9	1	38	0	0	0	2	2	1	13	108	0	122	2	0	0	1	3	0	92	4	18	0	109	0	0	0	0	109	274										
Total	155	3	49	2	209	1	0	0	3	4	4	66	397	2	469	7	1	2	2	12	1	349	21	66	0	437	0	0	0	0	437	1131										
Grand Total	340	30	113	3	486	1	1	0	3	5	8	132	749	8	888	30	1	12	2	45	1	713	33	133	0	880	0	0	0	0	880	2314										
Approach %	70.0	6.2	23.3	0.6	0.0	20.0	20.0	0.0	60.0	0.0	0.9	14.7	83.4	0.9	0.1	66.7	2.2	26.7	4.4	0.0	0.1	81.0	3.8	15.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Total %	14.7	1.3	4.9	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.3	5.7	32.4	0.3	0.0	1.3	0.0	0.5	0.1	0.0	0.0	10.8	1.4	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
Feeling Log Total	279										45	860										39	1092										2314									

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM		Forest Street					Mirak Mill Park West Driveway					Massachusetts Avenue					Burton Street					Massachusetts Avenue									
		from North					from Northeast					from East					from South					from West									
		Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total				
7:30 AM		52	11	13	0	76	0	0	0	0	0	3	28	94	1	127	8	0	2	0	10	0	88	2	19	0	109	322			
7:45 AM		41	3	20	0	70	0	0	0	0	0	0	25	110	5	140	9	0	2	0	16	0	100	5	25	0	130	356			
8:00 AM		57	1	19	0	77	1	0	0	1	2	2	27	118	2	149	0	0	0	0	0	1	77	4	28	0	110	338			
8:15 AM		41	1	21	0	53	0	0	0	0	0	1	13	85	0	99	1	1	0	0	2	0	82	9	13	0	104	258			
Total Volume		191	22	63	0	276	1	0	0	1	2	6	93	407	8	515	18	1	4	0	28	1	347	20	85	0	453	1274			
% Approach Total		69.2	8.0	22.8	0.0	0.0	50.0	0.0	50.0	0.0	0.0	1.2	16.1	79.0	1.6	0.2	64.3	3.6	32.1	0.0	0.0	0.2	76.6	14.4	38.9	0.0	0.0				
PHF		0.838	0.500	0.738	0.000	0.896	0.250	0.000	0.000	0.250	0.000	0.500	0.830	0.862	0.400	0.250	0.864	0.500	0.250	0.321	0.000	0.000	0.433	0.250	0.868	0.356	0.759	0.000	0.871	0.895	
Feeling Log		191	22	63	0	276	1	0	0	1	2	6	93	407	8	515	18	1	4	0	28	1	347	20	85	0	453	1274			
Feeling Log		276					27					943					31					1051					1274				
Total		464					29					943					39					1051					1274				

PDI File #: 207450 BC
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway
 Location: E: Massachusetts Avenue W: Massachusetts Avenue
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 7:00 AM
 End Time: 9:00 AM
 Class



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

Class	Heavy Vehicles (Combined Trucks, Single-Unit Trucks, Articulated Trucks)																														
	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue from East						Burton Street from South						Massachusetts Avenue from West						Total
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Break Left	U-Turn	Total	Hard Right	Hard Left	Break Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Hard Right	Hard Left	Break Left	U-Turn	Total	Hard Right	Thru	Break Left	Left	U-Turn	Total		
7:00 AM	2	0	2	0	0	4	0	0	0	0	0	0	0	0	31	0	0	0	31	0	0	0	0	0	0	9	0	0	0	9	24
7:15 AM	2	0	0	0	0	2	0	0	0	0	0	0	0	1	6	0	0	7	0	0	0	0	0	0	9	0	0	0	9	18	
7:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	1	8	0	0	9	0	0	0	0	0	0	9	0	1	0	10	22	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	11	0	0	0	11	17	
Total	5	0	2	0	0	7	0	0	0	0	0	0	0	2	51	0	0	53	0	0	0	0	0	0	38	0	1	0	39	81	
8:00 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	5	0	0	0	5	13	
8:15 AM	2	0	0	0	0	2	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	11	0	0	0	11	18	
8:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	1	7	0	0	8	0	0	0	0	0	0	5	0	1	0	6	15	
8:45 AM	1	0	1	0	0	2	0	0	0	0	0	0	0	1	7	0	0	8	0	0	0	1	0	1	6	0	0	0	6	17	
Total	4	0	3	0	0	7	0	0	0	0	0	0	0	2	25	0	0	27	0	0	0	1	0	1	27	0	1	0	28	63	
Grand Total	9	0	5	0	0	14	0	0	0	0	0	0	0	4	56	0	0	60	0	0	0	1	0	1	65	0	4	0	69	144	
Approach %	64.3	0.0	35.7	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	6.7	93.3	0.0	0.0		0.0	0.0	0.0	100.0	0.0		94.2	0.0	5.8	0.0			
Total %	6.3	0.0	3.5	0.0	0.0	9.7	0.0	0.0	0.0	0.0	0.0		0.0	2.8	38.9	0.0	0.0	41.7	0.0	0.0	0.0	0.7	0.0	0.7	45.1	0.0	2.8	0.0	47.9		
Entering Leg Total	8						0						70						0						66						144
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	0	0	24	0	0	0	0	0	0	21	0	0	0	21	45	
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.9	0.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	32.3	0.0	0.0	0.0	30.4	31.3	
Entering Leg Total	0						0						21						1						26						45
Single-Unit Trucks	9	0	5	0	0	14	0	0	0	0	0	0	0	3	29	0	0	32	0	0	0	1	0	1	38	0	3	0	41	88	
% Single-Unit	100.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.0	51.8	0.0	0.0	53.3	0.0	0.0	0.0	100.0	0.0	100.0	58.5	0.0	75.0	0.0	59.6	61.1	
Entering Leg Total	6						0						43						0						39						89
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	6	0	1	0	7	11	
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	5.4	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	9.2	0.0	25.0	0.0	10.1	7.6	
Entering Leg Total	2						0						6						0						3						11

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Hard Left	Break Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Hard Right	Hard Left	Break Left	U-Turn	Total	Hard Right	Thru	Break Left	Left	U-Turn	Total		
7:00 AM	2	0	2	0	0	4	0	0	0	0	0	0	0	0	31	0	0	31	0	0	0	0	0	0	9	0	0	0	9	24	
7:15 AM	2	0	0	0	0	2	0	0	0	0	0	0	0	1	6	0	0	7	0	0	0	0	0	0	9	0	0	0	9	18	
7:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	1	8	0	0	9	0	0	0	0	0	0	9	0	1	0	10	22	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	11	0	0	0	11	17	
Total Volume	5	0	2	0	0	7	0	0	0	0	0	0	0	2	51	0	0	53	0	0	0	0	0	0	38	0	1	0	39	81	
% Approach Total	71.4	0.0	28.6	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	6.1	93.9	0.0	0.0		0.0	0.0	0.0	0.0	0.0		45.1	0.0	7.1	0.0			
PHF	0.625	0.000	0.250	0.000	0.000	0.438	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.705	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.364	0.000	0.250	0.000	0.359	0.844
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	9	0	0	0	9	24	
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.4	0.0	0.0	45.5	0.0	0.0	0.0	0.0	0.0	0.0	23.7	0.0	0.0	0.0	22.0	29.6	
Single Unit Trucks	5	0	2	0	0	7	0	0	0	0	0	0	0	2	15	0	0	17	0	0	0	0	0	0	24	0	2	0	26	50	
Single Unit %	100.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	48.4	0.0	0.0	51.5	0.0	0.0	0.0	0.0	0.0	0.0	63.2	0.0	66.7	0.0	63.4	61.7	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	5	0	1	0	6	7	
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	13.2	0.0	33.3	0.0	14.6	8.6	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	9	0	0	0	9	24	
Single Unit Trucks	5	0	2	0	0	7	0	0	0	0	0	0	0	2	15	0	0	17	0	0	0	0	0	0	24	0	2	0	26	50	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	5	0	1	0	6	7	
Total Entering Leg	5	0	2	0	0	7	0	0	0	0	0	0	0	2	51	0	0	53	0	0	0	0	0	0	38	0	1	0	39	81	
Buses	0						0						0						0						0						15
Single Unit Trucks	4						0						0						0						0						20
Articulated Trucks	1						0						0						0						0						1
Total Exiting Leg	5						0						0						0						0						36

PDI File #: 207450 BC
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway
 Location: E: Massachusetts Avenue W: Massachusetts Avenue
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 7:00 AM
 End Time: 9:00 AM
 Class:



Class		Buses																																					
		Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue													
		from North						from Northeast						from East						from South						from West													
		Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total		
7:00 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
7:15 AM		0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	6	
7:30 AM		0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
7:45 AM		0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	6	
Total		0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	24	
8:00 AM		0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4	0	0	7		
8:15 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	9	0	0	0	0	0	0	0	4	0	0	0	0	0	4	0	0	4		
8:30 AM		0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	5		
8:45 AM		0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	5		
Total		0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	12	0	0	21		
Grand Total		0	0	0	0	0	0	0	0	0	0	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	21	0	0	45		
Approach %		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total %		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.7	0.0	0.0	0.0	0.0	0.0	46.7	0.0	0.0	0.0		
Entering Leg Total		0						0						21						0						21						45							

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at

7:00 AM	Forest Street										Mirak Mill Park West Driveway										Massachusetts Avenue										Burton Street										Massachusetts Avenue										Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
	from North										from Northeast										from East										from South										from West																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

PDI File #: 207450 8C
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway
 Location: E: Massachusetts Avenue W: Massachusetts Avenue
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 7:00 AM
 End Time: 9:00 AM
 Class



Single-Unit Trucks

	Single-Unit Trucks																		Single-Unit Trucks																	
	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue											
	from North						from Northeast						from East						from South						from West											
	Right	Thru	Left	Stand Left	U-Turn	Total	Stand Right	Stand Right	Stand Left	Stand Left	U-Turn	Total	Stand Right	Right	Thru	Left	U-Turn	Total	Right	Stand Right	Thru	Left	U-Turn	Total	Right	Thru	Stand Left	Stand Left	U-Turn	Total						
7:00 AM	2	0	2	0	0	4	0	0	0	0	0	0	0	0	6	6	0	0	0	0	0	0	0	0	0	4	0	0	0	4	16					
7:15 AM	2	0	0	0	0	2	0	0	0	0	0	0	0	1	2	0	0	0	3	0	0	0	0	0	0	4	0	0	0	4	9					
7:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	1	5	0	0	0	6	0	0	0	0	0	0	9	0	2	0	11	18					
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	7	0	0	0	7	8					
Total	5	0	2	0	0	7	0	0	0	0	0	0	0	2	15	0	0	0	17	0	0	0	0	0	0	24	0	2	0	26	50					
8:00 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	1	0	0	0	1	6					
8:15 AM	2	0	0	0	0	2	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	6	0	0	0	6	12					
8:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	1	4	0	0	0	5	0	0	0	0	0	0	3	0	1	0	4	10					
8:45 AM	1	0	1	0	0	2	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	4	0	0	0	4	10					
Total	4	0	3	0	0	7	0	0	0	0	0	0	0	1	14	0	0	0	19	0	0	0	0	0	0	14	0	1	0	15	38					
Grand Total	9	0	5	0	0	14	0	0	0	0	0	0	0	3	29	0	0	0	32	0	0	0	1	0	1	0	38	0	3	0	41	88				
Approach %	64.3	0.0	35.7	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	9.4	90.6	0.0	0.0		0.0	0.0	0.0	100.0	0.0		0.0	92.7	0.0	7.3	0.0							
Total %	10.2	0.0	5.7	0.0	0.0	15.9	0.0	0.0	0.0	0.0	0.0		0.0	3.4	33.0	0.0	0.0		36.4	0.0	0.0	0.0	1.1	0.0	1.1	0.0	48.2	0.0	8.4	0.0	58.6					
Existing Leg Total	6						0						49						0						29						88					

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue					
	from North						from Northeast						from East						from South						from West					
	Right	Thru	Left	Stand Left	U-Turn	Total	Stand Right	Stand Right	Stand Left	Stand Left	U-Turn	Total	Stand Right	Right	Thru	Left	U-Turn	Total	Right	Stand Right	Thru	Left	U-Turn	Total	Right	Thru	Stand Left	Stand Left	U-Turn	Total
7:00 AM	2	0	2	0	0	4	0	0	0	0	0	0	0	0	6	6	0	0	0	0	0	0	0	0	0	4	0	0	0	4
7:15 AM	2	0	0	0	0	2	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	4	0	0	0	4	
7:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	1	5	0	0	0	0	0	0	0	0	0	9	0	2	0	11	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	7	0	0	0	7	
Total without	5	0	2	0	0	7	0	0	0	0	0	0	0	2	15	0	0	0	0	0	0	0	0	0	24	0	2	0	26	
% Approach Total	71.4	0.0	28.6	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	11.8	88.2	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	92.3	0.0	7.7	0.0	
#/Sec	0.625	0.000	0.250	0.000	0.000	0.438	0.000	0.000	0.000	0.000	0.000		0.000	0.500	0.615	0.000	0.000		0.000	0.000	0.000	0.000	0.000		0.000	0.667	0.000	0.250	0.000	0.591
Existing Leg	5	0	2	0	0	7	0	0	0	0	0	0	0	2	15	0	0	0	0	0	0	0	0	0	24	0	2	0	26	
Existing Leg																														
Total	11						0						48						0						45					

PDI File #: 207450 BC
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway
 Location: E: Massachusetts Avenue W: Massachusetts Avenue
 City, State: Arlington, MA
 Client: Nitsch Eng/B. Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 7:00 AM
 End Time: 9:00 AM
 Class



Articulated Trucks

	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total	
	from North						from Northeast						from East						from South						from West							
	Right	Thru	Left	Right Left	U-Turn	Total	Right	Thru	Left	Right Left	U-Turn	Total	Right	Thru	Left	Right Left	U-Turn	Total	Right	Thru	Left	Right Left	U-Turn	Total	Right	Thru	Left	Right Left	U-Turn	Total		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5	0	1	0	0	6	7
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	4
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	6	0	1	0	0	7	11
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	75.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	85.7	0.0	14.3	0.0	0.0	0.0	
Turn %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	27.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.5	0.0	9.1	0.0	63.6	0.0	
Waiting Leg Total	2						0						6						0						3						11	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total		
	from North						from Northeast						from East						from South						from West								
	Right	Thru	Left	Head Left	U-Turn	Total	Head Right	Thru	Left	Head Left	U-Turn	Total	Head Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total						
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	8	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	2	
Total vehicle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	5	0	1	0	6	7	
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	83.3	0.0	16.7	0.0	0.0	0.0	
Wait	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.250	0.000	0.500	0.583	
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	5	0	1	0	6	7	
Exiting Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	1						0						6						0						7						14		

PDI File #: 207450 BC
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway
 Location: E: Massachusetts Avenue W: Massachusetts Avenue
 City, State: Arlington, MA
 Client: Nitsch Eng/B. Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 7:00 AM
 End Time: 9:00 AM
 Class:



Bicycles (on Roadway and Crosswalks)

Class	Bicycles (on Roadway and Crosswalks)																																				Total				
	Forest Street								Mirak Mill Park West Driveway								Massachusetts Avenue								Burton Street								Massachusetts Avenue								
	from North								from Northeast								from East								from South								from West								
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right					
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
Existing Leg Total	3									0						3							0												4	12					

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Forest Street								Mirak Mill Park West Driveway								Massachusetts Avenue								Burton Street								Massachusetts Avenue								Total
	from North								from Northeast								from East								from South								from West								
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right					
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
N Approach Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		
Intersecting Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Existing Leg	3									0						3								0																12	
Total	3									0						3								0															16		

POI File #: 207450 BC
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway
 Location: E: Massachusetts Avenue W: Massachusetts Avenue
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 7:00 AM
 End Time: 9:00 AM
 Class:

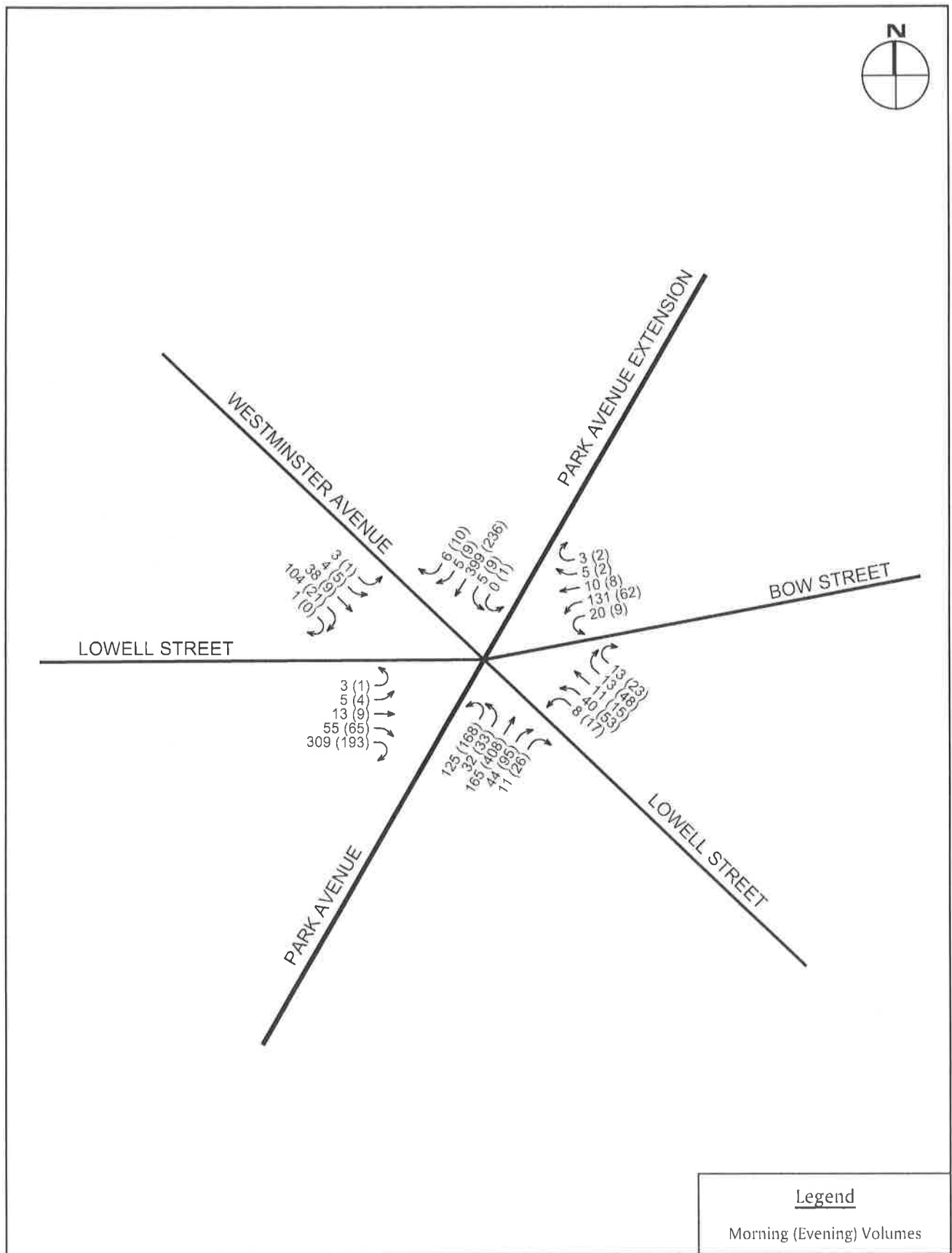


Pedestrians

Class	Forest Street																								Mirak Mill Park West Driveway												Massachusetts Avenue												Burton Street												Massachusetts Avenue												Total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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	0000	0001	0002	0003	0004	0005	0006	0007	0008	0009	0010	0011	0012	0013	0014	0015	0016	0017	0018	0019	0020	0021	0022	0023	0024	0025	0026	0027	0028	0029	0030	0031	0032	0033	0034	0035	0036	0037	0038	0039	0040	0041	0042	0043	0044	0045	0046	0047	0048	0049	0050	0051	0052	0053	0054	0055	0056	0057	0058	0059	0060	0061	0062	0063	0064	0065	0066	0067	0068	0069	0070	0071		0072	0073	0074	0075	0076	0077	0078	0079	0080	0081	0082	0083	0084	0085	0086	0087	0088	0089	0090	0091	0092	0093	0094	0095	0096	0097	0098	0099	0100	0101	0102	0103	0104	0105	0106	0107	0108	0109	0110	0111	0112	0113	0114	0115	0116	0117	0118	0119	0120	0121	0122	0123	0124	0125	0126	0127	0128	0129	0130	0131	0132	0133	0134	0135	0136	0137	0138	0139	0140	0141	0142	0143	0144	0145	0146	0147	0148	0149	0150	0151	0152	0153	0154	0155	0156	0157	0158	0159	0160	0161	0162	0163	0164	0165	0166	0167	0168	0169	0170	0171	0172	0173	0174	0175	0176	0177	0178	0179	0180	0181	0182	0183	0184	0185	0186	0187	0188	0189	0190	0191	0192	0193	0194	0195	0196	0197	0198	0199	0200	0201	0202	0203	0204	0205	0206	0207	0208	0209	0210	0211	0212	0213	0214	0215	0216	0217	0218	0219	0220	0221	0222	0223	0224	0225	0226	0227	0228	0229	0230	0231	0232	0233	0234	0235	0236	0237	0238	0239	0240	0241	0242	0243	0244	0245	0246	0247	0248	0249	0250	0251	0252	0253	0254	0255	0256	0257	0258	0259	0260	0261	0262	0263	0264	0265	0266	0267	0268	0269	0270	0271	0272	0273	0274	0275	0276	0277	0278	0279	0280	0281	0282	0283	0284	0285	0286	0287	0288	0289	0290	0291	0292	0293	0294	0295	0296	0297	0298	0299	0300	0301	0302	0303	0304	0305	0306	0307	0308	0309	0310	0311	0312	0313	0314	0315	0316	0317	0318	0319	0320	0321	0322	0323	0324	0325	0326	0327	0328	0329	0330	0331	0332	0333	0334	0335	0336	0337	0338	0339	0340	0341	0342	0343	0344	0345	0346	0347	0348	0349	0350	0351	0352	0353	0354	0355	0356	0357	0358	0359	0360	0361	0362	0363	0364	0365	0366	0367	0368	0369	0370	0371	0372	0373	0374	0375	0376	0377	0378	0379	0380	0381	0382	0383	0384	0385	0386	0387	0388	0389	0390	0391	0392	0393	0394	0395	0396	0397	0398	0399	0400	0401	0402	0403	0404	0405	0406	0407	0408	0409	0410	0411	0412	0413	0414	0415	0416	0417	0418	0419	0420	0421	0422	0423	0424	0425	0426	0427	0428	0429	0430	0431	0432	0433	0434	0435	0436	0437	0438	0439	0440	0441	0442	0443	0444	0445	0446	0447	0448	0449	0450	0451	0452	0453	0454	0455	0456	0457	0458	0459	0460	0461	0462	0463	0464	0465	0466	0467	0468	0469	0470	0471	0472	0473	0474	0475	0476	0477	0478	0479	0480	0481	0482	0483	0484	0485	0486	0487	0488	0489	0490	0491	0492	0493	0494	0495	0496	0497	0498	0499	0500	0501	0502	0503	0504	0505	0506	0507	0508	0509	0510	0511	0512	0513	0514	0515	0516	0517	0518	0519	0520	0521	0522	0523	0524	0525	0526	0527	0528	0529	0530	0531	0532	0533	0534	0535	0536	0537	0538	0539	0540	0541	0542	0543	0544	0545	0546	0547	0548	0549	0550	0551	0552	0553	0554	0555	0556	0557	0558	0559	0560	0561	0562	0563	0564	0565	0566	0567	0568	0569	0570	0571	0572	0573	0574	0575	0576	0577	0578	0579	0580	0581	0582	0583	0584	0585	0586	0587	0588	0589	0590	0591	0592	0593	0594	0595	0596	0597	0598	0599	0600	0601	0602	0603	0604	0605	0606	0607	0608	0609	0610	0611	0612	0613	0614	0615	0616	0617	0618	0619	0620	0621	0622	0623	0624	0625	0626	0627	0628	0629	0630	0631	0632	0633	0634	0635	0636	0637	0638	0639	0640	0641	0642	0643	0644	0645	0646	0647	0648	0649	0650	0651	0652	0653	0654	0655	0656	0657	0658	0659	0660	0661	0662	0663	0664	0665	0666	0667	0668	0669	0670	0671	0672	0673	0674	0675	0676	0677	0678	0679	0680	0681	0682	0683	0684	0685	0686	0687	0688	0689	0690	0691	0692	0693	0694	0695	0696	0697	0698	0699	0700	0701	0702	0703	0704	0705	0706	0707	0708	0709	0710	0711	0712	0713	0714	0715	0716	0717	0718	0719	0720	0721	0722	0723	0724	0725	0726	0727	0728	0729	0730	0731	0732	0733	0734	0735	0736	0737	0738	0739	0740	0741	0742	0743	0744	0745	0746	0747	0748	0749	0750	0751	0752	0753	0754	0755	0756	0757	0758	0759	0760	0761	0762	0763	0764	0765	0766	0767	0768	0769	0770	0771	0772	0773	0774	0775	0776	0777	0778	0779	0780	0781	0782	0783	0784	0785	0786	0787	0788	0789	0790	0791	0792	0793	0794	0795	0796	0797	0798	0799	0800	0801	0802	0803	0804	0805	0806	0807	0808	0809	0810	0811	0812	0813	0814	0815	0816	0817	0818	0819	0820	0821	0822	0823	0824	0825	0826	0827	0828	0829	0830	0831	0832	0833	0834	0835	0836	0837	0838	0839	0840	0841	0842	0843	0844	0845	0846	0847	0848	0849	0850	0851	0852	0853	0854	0855	0856	0857	0858	0859	0860	0861	0862	0863	0864	0865	0866	0867	0868	0869	0870	0871	0872	0873	0874	0875	0876	0877	0878	0879	0880	0881	0882	0883	0884	0885	0886	0887	0888	0889	0890	0891	0892	0893	0894	0895	0896	0897	0898	0899	0900	0901	0902	0903	0904	0905	0906	0907	0908	0909	0910	0911	0912	0913	0914	0915	0916	0917	0918	0919	0920	0921	0922	0923	0924	0925	0926	0927	0928	0929	0930	0931	0932	0933	0934	0935	0936	0937	0938	0939	0940	0941	0942	0943	0944	0945	0946	0947	0948	0949	0950	0951	0952	0953	0954	0955	0956	0957	0958	0959	0960	0961	0962	0963	0964	0965	0966	0967	0968	0969	0970	0971	0972	0973	0974	0975	0976	0977	0978	0979	0980	0981	0982	0983	0984	0985	0986	0987	0988	0989	0990	0991	0992	0993	0994	0995	0996	0997	0998	099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Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Forest Street										Mirak Mill Park West Driveway										Massachusetts Avenue										Burton Street										Massachusetts Avenue										Total
	from North										from Northeast										from East										from South										from West										
	right	left	thru	bike	turn	left	thru	right	left	thru	right	left	thru	bike	turn	left	thru	right	left	thru	right	left	thru	bike	turn	left	thru	right	left	thru	bike	turn	left	thru	right	left	thru	bike	turn	left	thru	right									
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6		
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38		
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23		
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	73		
W. Approach Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
PHF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.430				
Walking Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
Walking Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
Total	12										16										0										10										50										88



2016 Existing Condition Weekday Peak Hour Traffic Volumes
19R Park Avenue
Arlington, Massachusetts

Figure 2
Not to Scale

Motor Vehicle Crash Data

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : February 2020

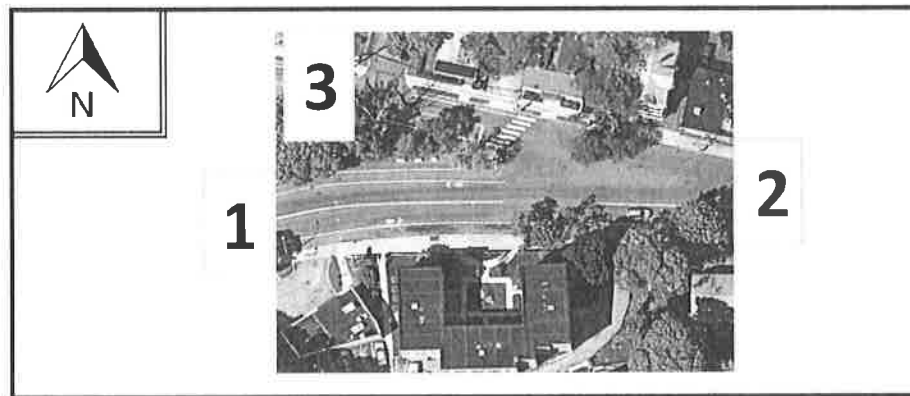
DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Lowell Street

INTERSECTION
DIAGRAM



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	SB			
PEAK HOURLY VOLUMES (AM/PM) :	387	369	118			874

"K" FACTOR :

0.080

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

10,925

TOTAL # OF CRASHES :

7

OF YEARS :

3

AVERAGE # OF CRASHES PER YEAR (A) :

2.33

CRASH RATE CALCULATION :

0.59

RATE =

$$\frac{(A * 1,000,000)}{(V * 365)}$$

Comments :

Project Title & Date :

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : February 2020

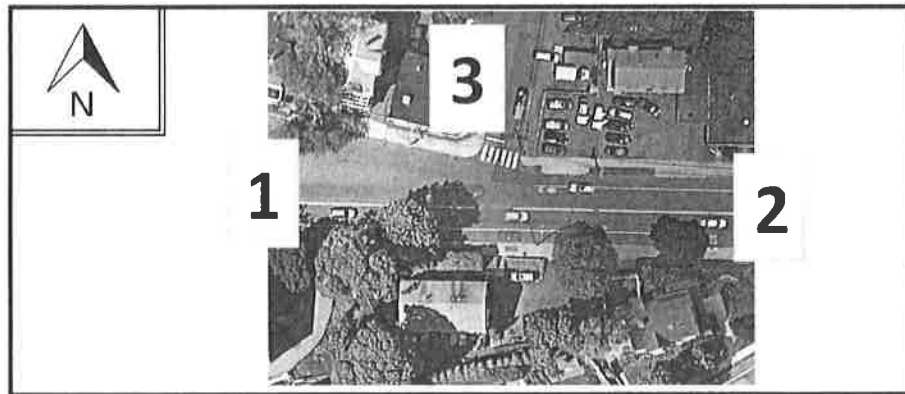
DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Clark Street

INTERSECTION
DIAGRAM



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	SB			
PEAK HOURLY VOLUMES (AM/PM) :	495	374	10			879

"K" FACTOR :

0.082

INTERSECTION ADT (V) = TOTAL DAILY
APPROACH VOLUME :

10,720

TOTAL # OF CRASHES :

1

OF
YEARS :

3

AVERAGE # OF
CRASHES PER YEAR (A) :

0.33

CRASH RATE CALCULATION :

0.09

RATE =

$$\frac{(A * 1,000,000)}{(V * 365)}$$

Comments : _____

Project Title & Date : _____

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : February 2020

DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

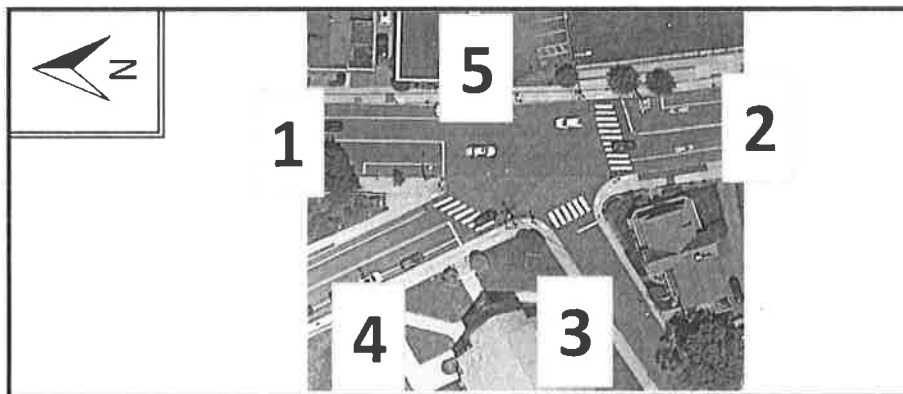
MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Appleton Street

Appleton Place

Driveway

INTERSECTION
DIAGRAM



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	NEB	SB	
PEAK HOURLY VOLUMES (AM/PM) :	376	625	64	159	0	1,224
"K" FACTOR :	0.080	INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :				15,300
TOTAL # OF CRASHES :	10	# OF YEARS :	3	AVERAGE # OF CRASHES PER YEAR (A) :		3.33

CRASH RATE CALCULATION :

0.60

$$\text{RATE} = \frac{(A * 1,000,000)}{(V * 365)}$$

Comments : _____

Project Title & Date : _____

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : February 2020

DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

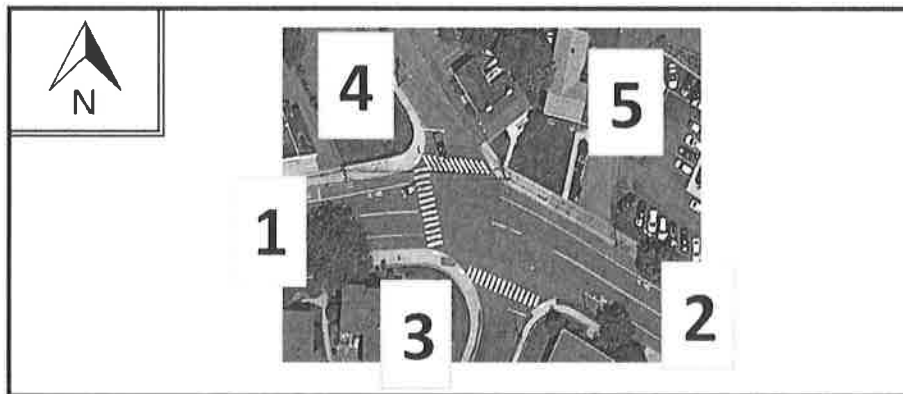
MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Forest Street

Burton Street

Driveway

INTERSECTION
DIAGRAM



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SEB	SB	
PEAK HOURLY VOLUMES (AM/PM) :	492	541	28	281	1	1,343

"K" FACTOR :

0.080

INTERSECTION ADT (V) = TOTAL DAILY
APPROACH VOLUME :

16,788

TOTAL # OF CRASHES :

10

OF
YEARS :

3

AVERAGE # OF
CRASHES PER YEAR (A) :

3.33

CRASH RATE CALCULATION :

0.54










RATE = $\frac{(A * 1,000,000)}{(V * 365)}$

Comments : _____

Project Title & Date : _____










Traffic Operations Analysis

28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis
 2020 Existing Weekday Morning Peak Hour 3: Massachusetts Avenue & Lowell Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	308	395	80	124	5
Future Volume (Veh/h)	5	308	395	80	124	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	7	411	470	95	135	5
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	595				1002	578
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	595				1002	578
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				67	99
cM capacity (veh/h)	963				412	640
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	418	565	140			
Volume Left	7	0	135			
Volume Right	0	95	5			
cSH	963	1700	417			
Volume to Capacity	0.01	0.33	0.34			
Queue Length 95th (ft)	1	0	36			
Control Delay (s)	0.2	0.0	17.9			
Lane LOS	A		C			
Approach Delay (s)	0.2	0.0	17.9			
Approach LOS			C			
Intersection Summary						
Average Delay		2.3				
Intersection Capacity Utilization		43.9%		ICU Level of Service	A	
Analysis Period (min)		15				
















* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis
 2020 Existing Weekday Morning Peak Hour 5: Massachusetts Avenue & Clark Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	422	405	10	5	70
Future Volume (Veh/h)	10	422	405	10	5	70
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	13	563	482	12	5	76
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	524				1137	548
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	524				1137	548
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				99	88
cM capacity (veh/h)	1023				357	659
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	576	494	81			
Volume Left	13	0	5			
Volume Right	0	12	76			
cSH	1023	1700	626			
Volume to Capacity	0.01	0.29	0.13			
Queue Length 95th (ft)	1	0	11			
Control Delay (s)	0.4	0.0	11.6			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	11.6			
Approach LOS			B			
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization		48.0%		ICU Level of Service		A
Analysis Period (min)		15				
















* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis
 2020 Existing Weekday Morning Peak Hour 13: Appleton Street/Driveway & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	341	46	284	359	0	17	0	163	1	0	0
Future Volume (Veh/h)	0	341	46	284	359	0	17	0	163	1	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			-4%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.85	0.85	0.85	0.92	0.92	0.92
Hourly flow rate (vph)	0	455	61	338	427	0	20	0	192	1	0	0
Pedestrians		109			215			118			215	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		12			24			11			20	
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	642			634			1816	1922	818	2210	1952	751
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	642			634			1816	1922	818	2210	1952	751
tC, single (s)	4.1			4.1			*4.0	6.5	*3.0	*3.0	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	4.0	*3.0	3.5	4.0	3.3
p0 queue free %	100			60			85	100	66	99	100	100
cM capacity (veh/h)	757			842			131	29	565	86	27	287
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	516	765	212	1								
Volume Left	0	338	20	1								
Volume Right	61	0	192	0								
cSH	757	842	430	86								
Volume to Capacity	0.00	0.40	0.49	0.01								
Queue Length 95th (ft)	0	49	66	1								
Control Delay (s)	0.0	9.0	21.2	47.5								
Lane LOS		A	C	E								
Approach Delay (s)	0.0	9.0	21.2	47.5								
Approach LOS			C	E								
Intersection Summary												
Average Delay			7.6									
Intersection Capacity Utilization			81.9%		ICU Level of Service					D		
Analysis Period (min)			15									










* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue & CM Unsignalized Intersection Capacity Analysis
 2020 Existing Weekday Morning Peak Hour 16: Burton Street/Forest Street & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	415	1	10	445	98	0	9	19	65	22	194
Future Volume (Veh/h)	91	415	1	10	445	98	0	9	19	65	22	194
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.44	0.44	0.44	0.89	0.89	0.89
Hourly flow rate (vph)	105	477	1	11	511	113	0	20	43	73	25	218
Pedestrians		57			9			56			57	
Lane Width (ft)		14.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		6			1			5			5	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	681			534			1620	1446	542	1396	1390	682
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	681			534			1620	1446	542	1396	1390	682
tC, single (s)	4.1			4.1			7.1	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	88			99			100	91	93	63	89	60
cM capacity (veh/h)	858			988			34	215	659	198	228	541
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	583	635	63	316								
Volume Left	105	11	0	73								
Volume Right	1	113	43	218								
cSH	858	988	398	358								
Volume to Capacity	0.12	0.01	0.16	0.88								
Queue Length 95th (ft)	10	1	14	214								
Control Delay (s)	3.1	0.3	15.7	57.1								
Lane LOS	A	A	C	F								
Approach Delay (s)	3.1	0.3	15.7	57.1								
Approach LOS			C	F								
Intersection Summary												
Average Delay			13.2									
Intersection Capacity Utilization			93.4%		ICU Level of Service				F			
Analysis Period (min)			15									










* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis
 2020 Existing Weekday Morning Peak Hour 19: Massachusetts Avenue & Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	477	552	6	1	1
Future Volume (Veh/h)	22	477	552	6	1	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.25	0.25
Hourly flow rate (vph)	25	548	634	7	4	4
Pedestrians		8	8		8	
Lane Width (ft)		12.0	14.0		10.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	649				1252	654
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	649				1252	654
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	97				99	99
cM capacity (veh/h)	941				326	619
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	573	641	8			
Volume Left	25	0	4			
Volume Right	0	7	4			
cSH	941	1700	427			
Volume to Capacity	0.03	0.38	0.02			
Queue Length 95th (ft)	2	0	1			
Control Delay (s)	0.7	0.0	13.6			
Lane LOS	A		B			
Approach Delay (s)	0.7	0.0	13.6			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			55.3%	ICU Level of Service		B
Analysis Period (min)			15			










* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis
 2020 Existing Weekday Morning Peak Hour 22: Appleton Street & Appleton Place

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	35	29	26	304	151	8
Future Volume (Veh/h)	35	29	26	304	151	8
Sign Control	Stop		Free		Free	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.38	0.38	0.84	0.84	0.85	0.85
Hourly flow rate (vph)	92	76	31	362	178	9
Pedestrians	109		91		109	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	10		9		10	
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	824	382	296			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	824	382	296			
tC, single (s)	*5.0	*5.0	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	75	88	97			
cM capacity (veh/h)	372	628	1155			
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	168	393	187			
Volume Left	92	31	0			
Volume Right	76	0	9			
cSH	456	1155	1700			
Volume to Capacity	0.37	0.03	0.11			
Queue Length 95th (ft)	42	2	0			
Control Delay (s)	17.4	0.9	0.0			
Lane LOS	C	A				
Approach Delay (s)	17.4	0.9	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			4.4			
Intersection Capacity Utilization			58.1%	ICU Level of Service	B	
Analysis Period (min)			15			










* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis
 2020 Existing Weekday Evening Peak Hour 3: Massachusetts Avenue & Lowell Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	382	218	151	113	5
Future Volume (Veh/h)	5	382	218	151	113	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	7	509	260	180	123	5
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	470				933	410
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	470				933	410
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				72	99
cM capacity (veh/h)	1071				443	756
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	516	440	128			
Volume Left	7	0	123			
Volume Right	0	180	5			
cSH	1071	1700	450			
Volume to Capacity	0.01	0.26	0.28			
Queue Length 95th (ft)	0	0	29			
Control Delay (s)	0.2	0.0	16.1			
Lane LOS	A		C			
Approach Delay (s)	0.2	0.0	16.1			
Approach LOS			C			
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			41.7%	ICU Level of Service	A	
Analysis Period (min)			15			

















* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue TCM Unsignalized Intersection Capacity Analysis
 2020 Existing Weekday Evening Peak Hour 5: Massachusetts Avenue & Clark Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	485	364	10	5	5
Future Volume (Veh/h)	10	485	364	10	5	5
Sign. Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	13	647	433	12	5	5
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	475				1172	499
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	475				1172	499
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				99	99
cM capacity (veh/h)	1066				344	692
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	660	445	10			
Volume Left	13	0	5			
Volume Right	0	12	5			
cSH	1066	1700	460			
Volume to Capacity	0.01	0.26	0.02			
Queue Length 95th (ft)	1	0	2			
Control Delay (s)	0.3	0.0	13.0			
Lane LOS	A		B			
Approach Delay (s)	0.3	0.0	13.0			
Approach LOS			B			
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			49.9%	ICU Level of Service	A	
Analysis Period (min)			15			

















* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis
 2020 Existing Weekday Evening Peak Hour 13: Appleton Street/Driveway & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	423	18	114	318	2	18	1	331	1	1	3
Future Volume (Veh/h)	3	423	18	114	318	2	18	1	331	1	1	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.90	0.90	0.90	0.62	0.62	0.62
Hourly flow rate (vph)	3	455	19	130	361	2	20	1	368	2	2	5
Pedestrians		21			27			7			27	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			3			1			3	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	390			481			1126	1128	498	1515	1136	410
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	390			481			1126	1128	498	1515	1136	410
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	100			88			94	100	48	98	99	99
cM capacity (veh/h)	1149			1080			328	328	707	103	325	763
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	477	493	389	9								
Volume Left	3	130	20	2								
Volume Right	19	2	368	5								
cSH	1149	1080	666	280								
Volume to Capacity	0.00	0.12	0.58	0.03								
Queue Length 95th (ft)	0	10	95	2								
Control Delay (s)	0.1	3.3	17.7	18.3								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.1	3.3	17.7	18.3								
Approach LOS			C	C								
Intersection Summary												
Average Delay			6.4									
Intersection Capacity Utilization			80.4%		ICU Level of Service					D		
Analysis Period (min)			15									

* User Entered Value










28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis
 2020 Existing Weekday Evening Peak Hour 16: Burton Street/Forest Street & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	562	2	3	375	92	1	3	8	38	4	65
Future Volume (Veh/h)	201	562	2	3	375	92	1	3	8	38	4	65
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.60	0.60	0.60	0.81	0.81	0.81
Hourly flow rate (vph)	216	604	2	3	426	105	2	5	13	47	5	80
Pedestrians		21			16			21			19	
Lane Width (ft)		14.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	550			627			1646	1614	642	1572	1562	518
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	550			627			1646	1614	642	1572	1562	518
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	78			100			99	97	98	74	97	88
cM capacity (veh/h)	996			945			150	174	613	182	184	690
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	822	534	20	132								
Volume Left	216	3	2	47								
Volume Right	2	105	13	80								
cSH	996	945	316	328								
Volume to Capacity	0.22	0.00	0.06	0.40								
Queue Length 95th (ft)	21	0	5	47								
Control Delay (s)	4.9	0.1	17.1	23.1								
Lane LOS	A	A	C	C								
Approach Delay (s)	4.9	0.1	17.1	23.1								
Approach LOS			C	C								
Intersection Summary												
Average Delay			5.0									
Intersection Capacity Utilization			90.6%		ICU Level of Service				E			
Analysis Period (min)			15									

* User Entered Value










28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis
 2020 Existing Weekday Evening Peak Hour

19: Massachusetts Avenue & Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	602	453	2	6	17
Future Volume (Veh/h)	6	602	453	2	6	17
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.88	0.88	0.64	0.64
Hourly flow rate (vph)	6	647	515	2	9	27
Pedestrians		19	19			
Lane Width (ft)		12.0	14.0			
Walking Speed (ft/s)		3.5	3.5			
Percent Blockage		2	2			
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	517				1194	535
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	517				1194	535
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				97	96
cM capacity (veh/h)	1059				351	695
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	653	517	36			
Volume Left	6	0	9			
Volume Right	0	2	27			
cSH	1059	1700	558			
Volume to Capacity	0.01	0.30	0.06			
Queue Length 95th (ft)	0	0	5			
Control Delay (s)	0.2	0.0	11.9			
Lane LOS	A		B			
Approach Delay (s)	0.2	0.0	11.9			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			51.2%	ICU Level of Service	A	
Analysis Period (min)			15			










* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis
 2020 Existing Weekday Evening Peak Hour 22: Appleton Street & Appleton Place

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	3	23	10	123	327	5
Future Volume (Veh/h)	3	23	10	123	327	5
Sign Control	Stop		Free		Free	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.65	0.65	0.84	0.84	0.90	0.90
Hourly flow rate (vph)	5	35	12	146	363	6
Pedestrians	20		18		20	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	576	404	389			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	576	404	389			
tC, single (s)	*5.0	*5.0	4.1			
tC, 2 stage (s)						
tF (s)	*3.0	*3.0	2.2			
p0 queue free %	99	96	99			
cM capacity (veh/h)	648	779	1160			
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	40	158	369			
Volume Left	5	12	0			
Volume Right	35	0	6			
cSH	760	1160	1700			
Volume to Capacity	0.05	0.01	0.22			
Queue Length 95th (ft)	4	1	0			
Control Delay (s)	10.0	0.7	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.0	0.7	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			46.8%	ICU Level of Service	A	
Analysis Period (min)			15			










* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis
 2025 No-Build Weekday Morning Peak Hour 3: Massachusetts Avenue & Lowell Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	337	437	88	137	6
Future Volume (Veh/h)	6	337	437	88	137	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	8	449	520	105	149	7
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	655				1098	632
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	655				1098	632
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				60	99
cM capacity (veh/h)	915				373	605
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	457	625	156			
Volume Left	8	0	149			
Volume Right	0	105	7			
cSH	915	1700	380			
Volume to Capacity	0.01	0.37	0.41			
Queue Length 95th (ft)	1	0	49			
Control Delay (s)	0.3	0.0	20.9			
Lane LOS	A		C			
Approach Delay (s)	0.3	0.0	20.9			
Approach LOS			C			
Intersection Summary						
Average Delay		2.7				
Intersection Capacity Utilization		46.9%		ICU Level of Service		A
Analysis Period (min)		15				

















* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis
 2025 No-Build Weekday Morning Peak Hour 5: Massachusetts Avenue & Clark Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	463	448	11	6	77
Future Volume (Veh/h)	11	463	448	11	6	77
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	15	617	533	13	7	84
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	576				1246	600
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	576				1246	600
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	98				98	87
cM capacity (veh/h)	979				317	626
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	632	546	91			
Volume Left	15	0	7			
Volume Right	0	13	84			
cSH	979	1700	582			
Volume to Capacity	0.02	0.32	0.16			
Queue Length 95th (ft)	1	0	14			
Control Delay (s)	0.4	0.0	12.3			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	12.3			
Approach LOS			B			
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization		51.1%		ICU Level of Service	A	
Analysis Period (min)		15				

















* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis
 2025 No-Build Weekday Morning Peak Hour 13: Appleton Street/Driveway & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	373	51	315	402	0	19	0	177	1	0	0
Future Volume (Veh/h)	0	373	51	315	402	0	19	0	177	1	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			-4%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.85	0.85	0.85	0.92	0.92	0.92
Hourly flow rate (vph)	0	497	68	375	479	0	22	0	208	1	0	0
Pedestrians		109			215			118			215	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		12			24			11			20	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	694			683			1987	2093	864	2398	2127	803
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	694			683			1987	2093	864	2398	2127	803
tC, single (s)	4.1			4.1			*4.0	6.5	*3.0	*3.0	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	4.0	*3.0	*3.5	4.0	3.3
p0 queue free %	100			54			79	100	62	99	100	100
cM capacity (veh/h)	724			808			106	20	554	68	19	268
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	565	854	230	1								
Volume Left	0	375	22	1								
Volume Right	68	0	208	0								
cSH	724	808	394	68								
Volume to Capacity	0.00	0.46	0.58	0.01								
Queue Length 95th (ft)	0	62	89	1								
Control Delay (s)	0.0	10.6	26.2	58.4								
Lane LOS		B	D	F								
Approach Delay (s)	0.0	10.6	26.2	58.4								
Approach LOS			D	F								
Intersection Summary												
Average Delay			9.2									
Intersection Capacity Utilization			88.7%	ICU Level of Service						E		
Analysis Period (min)			15									

* User Entered Value










28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis
 2025 No-Build Weekday Morning Peak Hour 16: Burton Street/Forest Street & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	456	1	10	491	108	0	10	21	72	24	223
Future Volume (Veh/h)	95	456	1	10	491	108	0	10	21	72	24	223
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.44	0.44	0.44	0.89	0.89	0.89
Hourly flow rate (vph)	109	524	1	11	564	124	0	23	48	81	27	251
Pedestrians		57			9			56			57	
Lane Width (ft)		14.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		6			1			5			5	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	745			581			1768	1566	590	1516	1504	740
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	745			581			1768	1566	590	1516	1504	740
tC, single (s)	4.1			4.1			7.1	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	87			99			100	88	92	51	86	51
cM capacity (veh/h)	812			950			22	187	629	166	200	510
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	634	699	71	359								
Volume Left	109	11	0	81								
Volume Right	1	124	48	251								
cSH	812	950	356	322								
Volume to Capacity	0.13	0.01	0.20	1.12								
Queue Length 95th (ft)	12	1	18	354								
Control Delay (s)	3.4	0.3	17.6	121.4								
Lane LOS	A	A	C	F								
Approach Delay (s)	3.4	0.3	17.6	121.4								
Approach LOS			C	F								
Intersection Summary												
Average Delay			26.8									
Intersection Capacity Utilization			101.1%		ICU Level of Service				G			
Analysis Period (min)			15									

* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis
 2025 No-Build Weekday Morning Peak Hour










19: Massachusetts Avenue & Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	527	608	8	1	1
Future Volume (Veh/h)	22	527	608	8	1	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.25	0.25
Hourly flow rate (vph)	25	606	699	9	4	4
Pedestrians		8	8		8	
Lane Width (ft)		12.0	14.0		10.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	716				1376	720
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	716				1376	720
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	97				99	99
cM capacity (veh/h)	888				286	579
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	631	708	8			
Volume Left	25	0	4			
Volume Right	0	9	4			
cSH	888	1700	383			
Volume to Capacity	0.03	0.42	0.02			
Queue Length 95th (ft)	2	0	2			
Control Delay (s)	0.7	0.0	14.6			
Lane LOS	A		B			
Approach Delay (s)	0.7	0.0	14.6			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			57.9%	ICU Level of Service		B
Analysis Period (min)			15			

* User Entered Value










28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis
 2025 No-Build Weekday Morning Peak Hour

22: Appleton Street & Appleton Place

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	39	32	29	337	164	9
Future Volume (Veh/h)	39	32	29	337	164	9
Sign Control	Stop		Free		Free	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.38	0.38	0.84	0.84	0.85	0.85
Hourly flow rate (vph)	103	84	35	401	193	11
Pedestrians	109		91		109	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	10		9		10	
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	888	398	313			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	888	398	313			
tC, single (s)	*5.0	*5.0	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	70	86	97			
cM capacity (veh/h)	348	619	1139			
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	187	436	204			
Volume Left	103	35	0			
Volume Right	84	0	11			
cSH	434	1139	1700			
Volume to Capacity	0.43	0.03	0.12			
Queue Length 95th (ft)	53	2	0			
Control Delay (s)	19.5	1.0	0.0			
Lane LOS	C	A				
Approach Delay (s)	19.5	1.0	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			4.9			
Intersection Capacity Utilization			60.3%	ICU Level of Service		B
Analysis Period (min)			15			

* User Entered Value










28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis
 2025 No-Build Weekday Evening Peak Hour 3: Massachusetts Avenue & Lowell Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	430	241	167	125	6
Future Volume (Veh/h)	6	430	241	167	125	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	8	573	287	199	136	7
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	516				1036	446
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	516				1036	446
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				66	99
cM capacity (veh/h)	1030				398	729
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	581	486	143			
Volume Left	8	0	136			
Volume Right	0	199	7			
cSH	1030	1700	407			
Volume to Capacity	0.01	0.29	0.35			
Queue Length 95th (ft)	1	0	39			
Control Delay (s)	0.2	0.0	18.6			
Lane LOS	A		C			
Approach Delay (s)	0.2	0.0	18.6			
Approach LOS			C			
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			45.2%	ICU Level of Service	A	
Analysis Period (min)			15			

* User Entered Value

















28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis
 2025 No-Build Weekday Evening Peak Hour

5: Massachusetts Avenue & Clark Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	543	402	11	6	6
Future Volume (Veh/h)	11	543	402	11	6	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	15	724	479	13	7	7
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	522				1300	546
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	522				1300	546
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				98	99
cM capacity (veh/h)	1025				301	661
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	739	492	14			
Volume Left	15	0	7			
Volume Right	0	13	7			
cSH	1025	1700	413			
Volume to Capacity	0.01	0.29	0.03			
Queue Length 95th (ft)	1	0	3			
Control Delay (s)	0.4	0.0	14.0			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	14.0			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			53.7%	ICU Level of Service		A
Analysis Period (min)			15			

















* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis
 2025 No-Build Weekday Evening Peak Hour 13: Appleton Street/Driveway & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	475	20	126	352	2	20	1	368	1	1	3
Future Volume (Veh/h)	3	475	20	126	352	2	20	1	368	1	1	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.90	0.90	0.90	0.62	0.62	0.62
Hourly flow rate (vph)	3	511	22	143	400	2	22	1	409	2	2	5
Pedestrians		21			27			7			27	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			3			1			3	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	429			540			1249	1250	556	1678	1260	449
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	429			540			1249	1250	556	1678	1260	449
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	100			86			92	100	39	97	99	99
cM capacity (veh/h)	1112			1027			284	283	667	69	280	734
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	536	545	432	9								
Volume Left	3	143	22	2								
Volume Right	22	2	409	5								
cSH	1112	1027	623	209								
Volume to Capacity	0.00	0.14	0.69	0.04								
Queue Length 95th (ft)	0	12	138	3								
Control Delay (s)	0.1	3.6	22.8	23.0								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.1	3.6	22.8	23.0								
Approach LOS			C	C								
Intersection Summary												
Average Delay			7.9									
Intersection Capacity Utilization			88.2%		ICU Level of Service				E			
Analysis Period (min)			15									










* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis
 2025 No-Build Weekday Evening Peak Hour 16: Burton Street/Forest Street & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	631	2	3	412	101	1	3	9	42	4	74
Future Volume (Veh/h)	221	631	2	3	412	101	1	3	9	42	4	74
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.60	0.60	0.60	0.81	0.81	0.81
Hourly flow rate (vph)	238	678	2	3	468	115	2	5	15	52	5	91
Pedestrians		21			16			21			19	
Lane Width (ft)		14.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	602			701			1822	1784	716	1739	1728	566
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	602			701			1822	1784	716	1739	1728	566
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	75			100			98	96	97	64	97	86
cM capacity (veh/h)	953			887			117	139	569	146	148	658
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	918	586	22	148								
Volume Left	238	3	2	52								
Volume Right	2	115	15	91								
cSH	953	887	277	280								
Volume to Capacity	0.25	0.00	0.08	0.53								
Queue Length 95th (ft)	25	0	6	72								
Control Delay (s)	5.7	0.1	19.1	31.4								
Lane LOS	A	A	C	D								
Approach Delay (s)	5.7	0.1	19.1	31.4								
Approach LOS			C	D								
Intersection Summary												
Average Delay			6.2									
Intersection Capacity Utilization			98.6%		ICU Level of Service				F			
Analysis Period (min)			15									

* User Entered Value










28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis
 2025 No-Build Weekday Evening Peak Hour 19: Massachusetts Avenue & Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	18	664	497	17	7	19
Future Volume (Veh/h)	18	664	497	17	7	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.88	0.88	0.64	0.64
Hourly flow rate (vph)	19	714	565	19	11	30
Pedestrians		19	19			
Lane Width (ft)		12.0	14.0			
Walking Speed (ft/s)		3.5	3.5			
Percent Blockage		2	2			
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	584				1346	594
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	584				1346	594
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	98				96	95
cM capacity (veh/h)	1001				296	655
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	733	584	41			
Volume Left	19	0	11			
Volume Right	0	19	30			
cSH	1001	1700	494			
Volume to Capacity	0.02	0.34	0.08			
Queue Length 95th (ft)	1	0	7			
Control Delay (s)	0.5	0.0	12.9			
Lane LOS	A		B			
Approach Delay (s)	0.5	0.0	12.9			
Approach LOS			B			
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			64.1%	ICU Level of Service	C	
Analysis Period (min)			15			

* User Entered Value










28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis
 2025 No-Build Weekday Evening Peak Hour

22: Appleton Street & Appleton Place

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	3	25	11	136	364	6
Future Volume (Veh/h)	3	25	11	136	364	6
Sign Control	Stop		Free		Free	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.65	0.65	0.84	0.84	0.90	0.90
Hourly flow rate (vph)	5	38	13	162	404	7
Pedestrians	20		18		20	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	636	446	431			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	636	446	431			
tC, single (s)	*5.0	*5.0	4.1			
tC, 2 stage (s)						
tF (s)	*3.0	*3.0	2.2			
p0 queue free %	99	95	99			
cM capacity (veh/h)	609	747	1119			
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	43	175	411			
Volume Left	5	13	0			
Volume Right	38	0	7			
cSH	728	1119	1700			
Volume to Capacity	0.06	0.01	0.24			
Queue Length 95th (ft)	5	1	0			
Control Delay (s)	10.3	0.7	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.3	0.7	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			49.5%	ICU Level of Service	A	
Analysis Period (min)			15			










* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue & CM Unsignalized Intersection Capacity Analysis
 2025 Build Weekday Morning Peak Hour 3: Massachusetts Avenue & Lowell Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	347	446	88	137	6
Future Volume (Veh/h)	6	347	446	88	137	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	8	463	531	105	149	7
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	666				1122	644
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	666				1122	644
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				59	99
cM capacity (veh/h)	906				363	599
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	471	636	156			
Volume Left	8	0	149			
Volume Right	0	105	7			
cSH	906	1700	370			
Volume to Capacity	0.01	0.37	0.42			
Queue Length 95th (ft)	1	0	51			
Control Delay (s)	0.3	0.0	21.6			
Lane LOS	A		C			
Approach Delay (s)	0.3	0.0	21.6			
Approach LOS			C			
Intersection Summary						
Average Delay			2.8			
Intersection Capacity Utilization		47.3%		ICU Level of Service	A	
Analysis Period (min)		15				










* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis
 2025 Build Weekday Morning Peak Hour 5: Massachusetts Avenue & Clark Street







						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	473	457	25	16	77
Future Volume (Veh/h)	11	473	457	25	16	77
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	15	631	544	30	17	84
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	604				1280	619
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	604				1280	619
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	98				94	86
cM capacity (veh/h)	956				306	614
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	646	574	101			
Volume Left	15	0	17			
Volume Right	0	30	84			
cSH	956	1700	525			
Volume to Capacity	0.02	0.34	0.19			
Queue Length 95th (ft)	1	0	18			
Control Delay (s)	0.4	0.0	13.5			
Lane LOS	A		B			
Approach Delay (s)	0.4	0.0	13.5			
Approach LOS			B			
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			51.7%	ICU Level of Service	A	
Analysis Period (min)			15			

* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis
 2025 Build Weekday Morning Peak Hour 7: Clark Street & Rear Driveway









						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	0	21	15	0	78
Future Volume (Veh/h)	15	0	21	15	0	78
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	0	23	16	0	85
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	116	31			39	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	116	31			39	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
pD queue free %	98	100			100	
cM capacity (veh/h)	880	1043			1571	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	16	39	85			
Volume Left	16	0	0			
Volume Right	0	16	0			
cSH	880	1700	1571			
Volume to Capacity	0.02	0.02	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	9.2	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	9.2	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			14.1%	ICU Level of Service		A
Analysis Period (min)			15			

28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis
 2025 Build Weekday Morning Peak Hour 9: Massachusetts Avenue & West Driveway

















						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↑	↑
Traffic Volume (veh/h)	0	489	462	0	10	20
Future Volume (Veh/h)	0	489	462	0	10	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	0	652	550	0	11	22
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	580				1262	610
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	580				1262	610
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	100				97	96
cM capacity (veh/h)	975				317	619
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	652	550	33			
Volume Left	0	0	11			
Volume Right	0	0	22			
cSH	1700	1700	470			
Volume to Capacity	0.38	0.32	0.07			
Queue Length 95th (ft)	0	0	6			
Control Delay (s)	0.0	0.0	13.2			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	13.2			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			42.2%	ICU Level of Service	A	
Analysis Period (min)			15			

* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis
 2025 Build Weekday Morning Peak Hour 11: Massachusetts Avenue & East Driveway

















						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	479	462	10	0	0
Future Volume (Veh/h)	20	479	462	10	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	27	639	550	12	0	0
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		0.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	592				1309	616
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	592				1309	616
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				100	100
cM capacity (veh/h)	994				168	480
Direction, Lane #	EB 1	WB 1				
Volume Total	666	562				
Volume Left	27	0				
Volume Right	0	12				
cSH	994	1700				
Volume to Capacity	0.03	0.33				
Queue Length 95th (ft)	2	0				
Control Delay (s)	0.7	0.0				
Lane LOS	A					
Approach Delay (s)	0.7	0.0				
Approach LOS						
Intersection Summary						
Average Delay		0.4				
Intersection Capacity Utilization		57.8%	ICU Level of Service	B		
Analysis Period (min)		15				

28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis
 2025 Build Weekday Morning Peak Hour 13: Appleton Street/Driveway & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	387	53	315	419	0	21	0	177	1	0	0
Future Volume (Veh/h)	0	387	53	315	419	0	21	0	177	1	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			-4%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.85	0.85	0.85	0.92	0.92	0.92
Hourly flow rate (vph)	0	516	71	375	499	0	25	0	208	1	0	0
Pedestrians		109			215			118			215	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		12			24			11			20	
Right turn flare (veh)												
Median type		None			None							
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	714			705			2028	2134	884	2438	2169	823
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	714			705			2028	2134	884	2438	2169	823
tC, single (s)	4.1			4.1			*4.0	6.5	*3.0	*3.0	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	4.0	*3.0	3.5	4.0	3.3
p0 queue free %	100			53			75	100	62	98	100	100
cM capacity (veh/h)	712			793			101	19	548	66	17	261
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	587	874	233	1								
Volume Left	0	375	25	1								
Volume Right	71	0	208	0								
cSH	712	793	372	66								
Volume to Capacity	0.00	0.47	0.63	0.02								
Queue Length 95th (ft)	0	64	102	1								
Control Delay (s)	0.0	11.0	29.5	60.6								
Lane LOS		B	D	F								
Approach Delay (s)	0.0	11.0	29.5	60.6								
Approach LOS			D	F								
Intersection Summary												
Average Delay			9.8									
Intersection Capacity Utilization			90.5%		ICU Level of Service				E			
Analysis Period (min)			15									










* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis
 2025 Build Weekday Morning Peak Hour 16: Burton Street/Forest Street & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	470	1	10	508	108	0	10	21	72	24	223
Future Volume (Veh/h)	95	470	1	10	508	108	0	10	21	72	24	223
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.44	0.44	0.44	0.89	0.89	0.89
Hourly flow rate (vph)	109	540	1	11	584	124	0	23	48	81	27	251
Pedestrians		57			9			56			57	
Lane Width (ft)		14.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		6			1			5			5	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	765			597			1804	1602	606	1552	1540	760
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	765			597			1804	1602	606	1552	1540	760
tC, single (s)	4.1			4.1			7.1	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	86			99			100	87	92	49	86	50
cM capacity (veh/h)	798			937			20	180	619	159	192	499
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	650	719	71	359								
Volume Left	109	11	0	81								
Volume Right	1	124	48	251								
cSH	798	937	345	311								
Volume to Capacity	0.14	0.01	0.21	1.15								
Queue Length 95th (ft)	12	1	19	374								
Control Delay (s)	3.4	0.3	18.1	136.0								
Lane LOS	A	A	C	F								
Approach Delay (s)	3.4	0.3	18.1	136.0								
Approach LOS			C	F								
Intersection Summary												
Average Delay			29.2									
Intersection Capacity Utilization			102.7%		ICU Level of Service				G			
Analysis Period (min)			15									










* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis
 2025 Build Weekday Morning Peak Hour 19: Massachusetts Avenue & Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	541	625	8	1	1
Future Volume (Veh/h)	22	541	625	8	1	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.25	0.25
Hourly flow rate (vph)	25	622	718	9	4	4
Pedestrians		8	8		8	
Lane Width (ft)		12.0	14.0		10.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	735				1410	738
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	735				1410	738
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	97				99	99
cM capacity (veh/h)	874				275	568
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	647	727	8			
Volume Left	25	0	4			
Volume Right	0	9	4			
cSH	874	1700	371			
Volume to Capacity	0.03	0.43	0.02			
Queue Length 95th (ft)	2	0	2			
Control Delay (s)	0.8	0.0	14.9			
Lane LOS	A		B			
Approach Delay (s)	0.8	0.0	14.9			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization		58.6%		ICU Level of Service		B
Analysis Period (min)		15				










* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis
 2025 Build Weekday Morning Peak Hour 22: Appleton Street & Appleton Place

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	39	32	29	339	166	9
Future Volume (Veh/h)	39	32	29	339	166	9
Sign Control	Stop		Free		Free	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.38	0.38	0.84	0.84	0.85	0.85
Hourly flow rate (vph)	103	84	35	404	195	11
Pedestrians	109		91		109	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	10		9		10	
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	892	400	315			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	892	400	315			
tC, single (s)	*5.0	*5.0	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.3	2.2			
p0 queue free %	70	86	97			
cM capacity (veh/h)	347	618	1137			
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	187	439	206			
Volume Left	103	35	0			
Volume Right	84	0	11			
cSH	432	1137	1700			
Volume to Capacity	0.43	0.03	0.12			
Queue Length 95th (ft)	54	2	0			
Control Delay (s)	19.6	1.0	0.0			
Lane LOS	C	A				
Approach Delay (s)	19.6	1.0	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			4.9			
Intersection Capacity Utilization			60.4%	ICU Level of Service	B	
Analysis Period (min)			15			










* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis
 2025 Build Weekday Evening Peak Hour 3: Massachusetts Avenue & Lowell Street

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	6	441	250	167	125	6
Future Volume (Veh/h)	6	441	250	167	125	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	8	588	298	199	136	7
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	527				1062	458
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	527				1062	458
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				65	99
cM capacity (veh/h)	1020				388	721
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	596	497	143			
Volume Left	8	0	136			
Volume Right	0	199	7			
cSH	1020	1700	397			
Volume to Capacity	0.01	0.29	0.36			
Queue Length 95th (ft)	1	0	40			
Control Delay (s)	0.2	0.0	19.1			
Lane LOS	A		C			
Approach Delay (s)	0.2	0.0	19.1			
Approach LOS			C			
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			45.8%	ICU Level of Service	A	
Analysis Period (min)			15			










* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis
 2025 Build Weekday Evening Peak Hour 5: Massachusetts Avenue & Clark Street







						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	11	554	411	26	21	6
Future Volume (Veh/h)	11	554	411	26	21	6
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	15	739	489	31	23	7
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	550				1334	564
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	550				1334	564
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				92	99
cM capacity (veh/h)	1000				290	648
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	754	520	30			
Volume Left	15	0	23			
Volume Right	0	31	7			
cSH	1000	1700	333			
Volume to Capacity	0.01	0.31	0.09			
Queue Length 95th (ft)	1	0	7			
Control Delay (s)	0.4	0.0	16.9			
Lane LOS	A		C			
Approach Delay (s)	0.4	0.0	16.9			
Approach LOS			C			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			54.3%	ICU Level of Service	A	
Analysis Period (min)			15			

* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis
 2025 Build Weekday Evening Peak Hour 7: Clark Street & Rear Driveway







						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	0	22	16	0	12
Future Volume (Veh/h)	15	0	22	15	0	12
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	0	24	16	0	13
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	45	32			40	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	45	32			40	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	965	1042			1570	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	16	40	13			
Volume Left	16	0	0			
Volume Right	0	16	0			
cSH	965	1700	1570			
Volume to Capacity	0.02	0.02	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.8	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.8	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			2.0			
Intersection Capacity Utilization			13.3%	ICU Level of Service		A
Analysis Period (min)			15			

28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis
 2025 Build Weekday Evening Peak Hour 9: Massachusetts Avenue & West Driveway

















						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↔	
Traffic Volume (veh/h)	0	575	417	0	10	20
Future Volume (Veh/h)	0	575	417	0	10	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	0	767	496	0	11	22
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	526				1323	556
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	526				1323	556
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	100				96	97
cM capacity (veh/h)	1021				298	654
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	767	496	33			
Volume Left	0	0	11			
Volume Right	0	0	22			
cSH	1700	1700	467			
Volume to Capacity	0.45	0.29	0.07			
Queue Length 95th (ft)	0	0	6			
Control Delay (s)	0.0	0.0	13.3			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	13.3			
Approach LOS			B			
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization		46.7%		ICU Level of Service	A	
Analysis Period (min)		15				

* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis
 2025 Build Weekday Evening Peak Hour 11: Massachusetts Avenue & East Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↰	↱			
Traffic Volume (veh/h)	20	565	417	10	0	0
Future Volume (Veh/h)	20	565	417	10	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.84	0.84	0.92	0.92
Hourly flow rate (vph)	27	753	496	12	0	0
Pedestrians		30	30		30	
Lane Width (ft)		12.0	12.0		0.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	3		0	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	538				1369	562
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	538				1369	562
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				100	100
cM capacity (veh/h)	1040				154	515
Direction, Lane #	EB 1	WB 1				
Volume Total	780	508				
Volume Left	27	0				
Volume Right	0	12				
cSH	1040	1700				
Volume to Capacity	0.03	0.30				
Queue Length 95th (ft)	2	0				
Control Delay (s)	0.7	0.0				
Lane LOS	A					
Approach Delay (s)	0.7	0.0				
Approach LOS						
Intersection Summary						
Average Delay		0.4				
Intersection Capacity Utilization		62.2%	ICU Level of Service	B		
Analysis Period (min)		15				

28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis
 2025 Build Weekday Evening Peak Hour 13: Appleton Street/Driveway & Massachusetts Avenue

















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	490	22	128	370	2	20	1	369	1	1	3
Future Volume (Veh/h)	3	490	22	128	370	2	20	1	369	1	1	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.90	0.90	0.90	0.62	0.62	0.62
Hourly flow rate (vph)	3	527	24	145	420	2	22	1	410	2	2	5
Pedestrians		21			27			7			27	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			3			1			3	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	449			558			1290	1291	573	1720	1302	469
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	449			558			1290	1291	573	1720	1302	469
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	100			86			92	100	38	97	99	99
cM capacity (veh/h)	1093			1011			271	270	656	63	266	719
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	554	567	433	9								
Volume Left	3	145	22	2								
Volume Right	24	2	410	5								
cSH	1093	1011	610	196								
Volume to Capacity	0.00	0.14	0.71	0.05								
Queue Length 95th (ft)	0	12	145	4								
Control Delay (s)	0.1	3.6	24.0	24.3								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.1	3.6	24.0	24.3								
Approach LOS			C	C								

Intersection Summary

Average Delay	8.1		
Intersection Capacity Utilization	90.3%	ICU Level of Service	E
Analysis Period (min)	15		










* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis
 2025 Build Weekday Evening Peak Hour 16: Burton Street/Forest Street & Massachusetts Avenue

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	646	2	3	431	101	1	3	9	42	4	74
Future Volume (Veh/h)	221	646	2	3	431	101	1	3	9	42	4	74
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.60	0.60	0.60	0.81	0.81	0.81
Hourly flow rate (vph)	238	695	2	3	490	115	2	5	15	52	5	91
Pedestrians		21			16			21			19	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	624			718			1861	1823	733	1778	1766	588
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	624			718			1861	1823	733	1778	1766	588
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	75			100			98	96	97	63	96	86
cM capacity (veh/h)	935			875			112	133	559	139	141	646
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	935	608	22	148								
Volume Left	238	3	2	52								
Volume Right	2	115	15	91								
cSH	935	875	267	269								
Volume to Capacity	0.25	0.00	0.08	0.55								
Queue Length 95th (ft)	25	0	7	76								
Control Delay (s)	5.9	0.1	19.7	33.7								
Lane LOS	A	A	C	D								
Approach Delay (s)	5.9	0.1	19.7	33.7								
Approach LOS			C	D								
Intersection Summary												
Average Delay			6.4									
Intersection Capacity Utilization			100.4%		ICU Level of Service				G			
Analysis Period (min)			15									










* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue HCM Unsignalized Intersection Capacity Analysis
 2025 Build Weekday Evening Peak Hour 19: Massachusetts Avenue & Driveway

						
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	18	679	515	17	7	19
Future Volume (Veh/h)	18	679	515	17	7	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.88	0.88	0.64	0.64
Hourly flow rate (vph)	19	730	585	19	11	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	604				1362	594
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	604				1362	594
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	98				96	95
cM capacity (veh/h)	984				297	666
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	749	604	41			
Volume Left	19	0	11			
Volume Right	0	19	30			
cSH	984	1700	499			
Volume to Capacity	0.02	0.36	0.08			
Queue Length 95th (ft)	1	0	7			
Control Delay (s)	0.5	0.0	12.9			
Lane LOS	A		B			
Approach Delay (s)	0.5	0.0	12.9			
Approach LOS			B			
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			60.2%	ICU Level of Service		B
Analysis Period (min)			15			

* User Entered Value

28424.01 :: 1207-1211 Massachusetts Avenue CM Unsignalized Intersection Capacity Analysis
 2025 Build Weekday Evening Peak Hour 22: Appleton Street & Appleton Place

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	3	25	11	139	365	6
Future Volume (Veh/h)	3	25	11	139	365	6
Sign Control	Stop		Free		Free	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.65	0.65	0.84	0.84	0.90	0.90
Hourly flow rate (vph)	5	38	13	165	406	7
Pedestrians	20		18		20	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	640	448	433			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	640	448	433			
tC, single (s)	*5.0	*5.0	4.1			
tC, 2 stage (s)						
tF (s)	*3.0	*3.0	2.2			
p0 queue free %	99	95	99			
cM capacity (veh/h)	606	746	1118			
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	43	178	413			
Volume Left	5	13	0			
Volume Right	38	0	7			
cSH	726	1118	1700			
Volume to Capacity	0.06	0.01	0.24			
Queue Length 95th (ft)	5	1	0			
Control Delay (s)	10.3	0.7	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.3	0.7	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			49.7%	ICU Level of Service	A	
Analysis Period (min)			15			

* User Entered Value

From: Don Seltzer <timoneer@gmail.com>
Andrew Bunnell <ABunnell@town.arlington.ma.us>, Eugene Benson <EBenson@town.arlington.ma.us>, David
To: Watson <DWatson@town.arlington.ma.us>, KLau@town.arlington.ma.us, rzsembery@town.arlington.ma.us,
Erin Zwirko <EZwirko@town.arlington.ma.us>, Jenny Raitt <jrait@town.arlington.ma.us>
Date: 08/07/2020 05:22 PM
Subject: Docket #3602 Non-compliance with Massachusetts Architectural Access Board Requirements

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To: Arlington Redevelopment Board

Last year when Lincoln Architects submitted their plans for a proposed hotel they failed to notice the obvious, that the frontage along Mass Ave is sloped downward from west to east by more than 2%. All of their elevations and visualizations incorrectly portrayed this frontage as level, ignoring the actual four foot drop.

When they finally carried out a basic topographical survey of the lot this spring and discovered this sloping condition the response was hasty and incomplete. They have failed to adequately correct for all of the problems that exist with this more complex terrain. It is evident that their most recent front elevation drawing is essentially the same as the January 'flat earth' version. The elevation view is simply cutoff at the level of the first floor, concealing the nature and problems with the steep circular driveway. Similarly, the latest visualization is completely inaccurate in its portrayal of a flat driveway.

Among the problems concealed by these inaccurate drawings are:

- Major non-compliance with Massachusetts Architectural Access Board requirements, 521 CMR
- Unsafe conditions for drivers and passengers exiting and entering vehicles
- A driveway that is impassable to most passenger vehicles.

The details of these deficiencies are in the attached document.

Don Seltzer

Attachments:

File: Docket #3602 Non-compliant Passenger loading zone.pdf	Size: 1580k	Content Type: application/pdf
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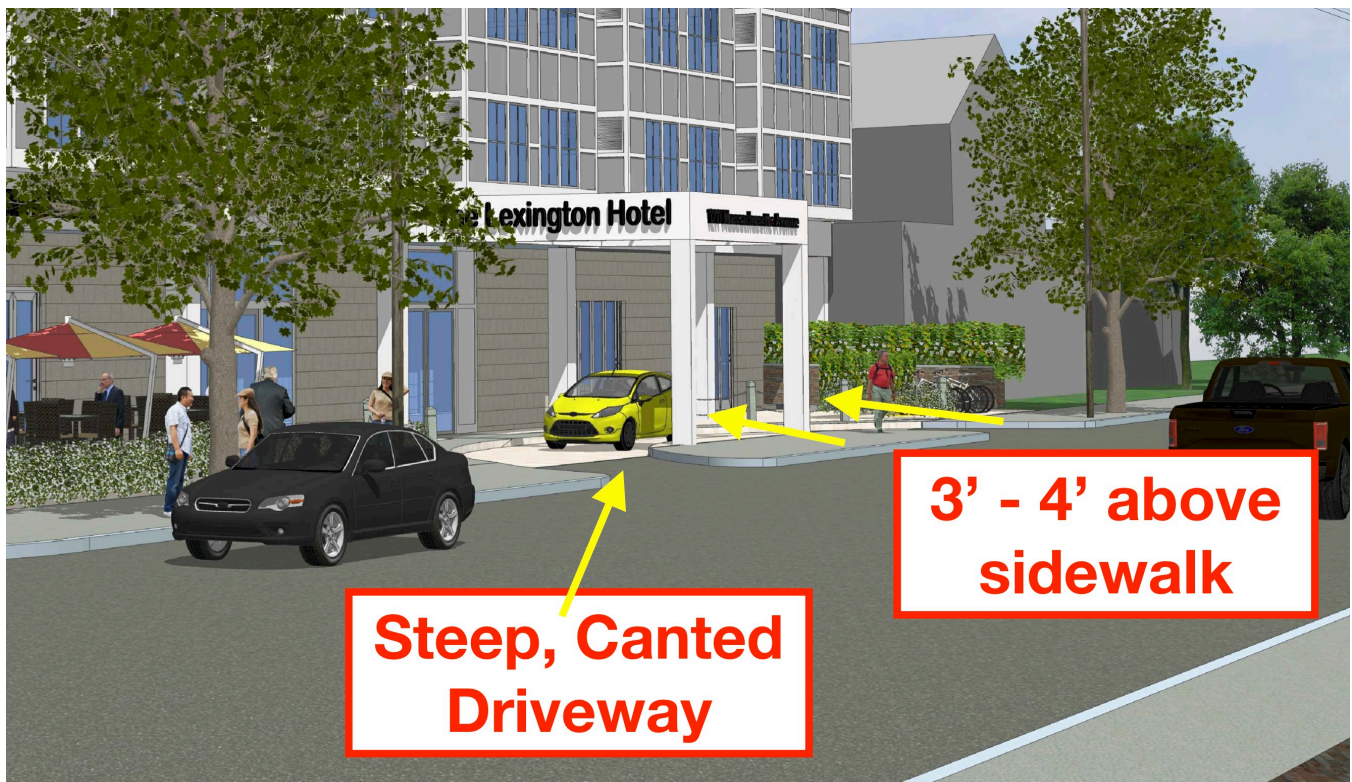
340 of 826

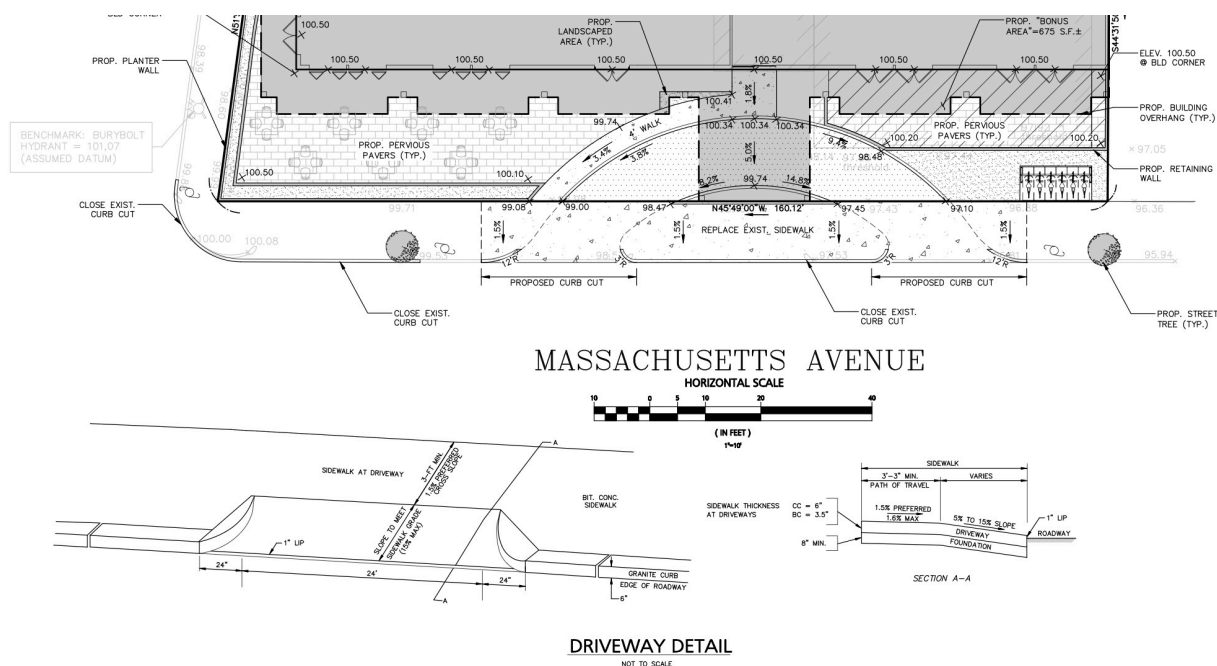
Docket #3602 - Non-compliance with Massachusetts Architectural Access Board Requirements

Last year when Lincoln Architects submitted their plans for a proposed hotel they failed to notice the obvious, that the frontage along Mass Ave is sloped downward from west to east by more than 2%. All of their elevations and visualizations portrayed this frontage as level, ignoring the actual four foot drop.

When they finally carried out a basic topographical survey of the lot this spring and discovered this condition, they failed to adequately correct for all of the problems that exist with their design. This is most evident in the circular driveway and passenger drop off area at the front door.

The most recent visualization continues to perpetuate the false notion that this entrance driveway is level. In fact, it is both steep and canted cross-wise. It has to accommodate a three foot drop from hotel entrance to sidewalk in only 24 feet.





The sparsely dimensioned drawing submitted for this area shows a hump, with a driveway slope of 14.8% on one side and 8.2% in the other direction on the other side of the hump crest. This is combined with a cross slope of 5%. At other places along the driveway the cross slope is 7%.

These slopes are completely out of the range allowable by state law for passenger loading zones as specified in 521 CMR which requires a level area of no more than 2% slope in all directions, as well as an accessible zone parallel to the vehicle of at least 20' x 5'.

521 CMR

23.7 PASSENGER LOADING ZONE

If passenger loading zones are provided, at least one of them shall comply with the following:

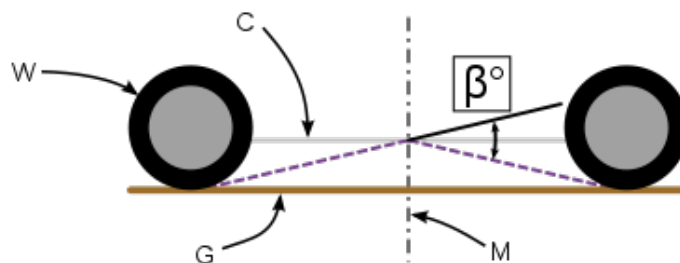
- 23.7.1 Wherever a passenger loading zone or parking area is provided, an *accessible route* to an *accessible entrance* is required.
- 23.7.2 Passenger loading zones shall provide an *access aisle* at least 60 inches (60" = 1524mm) wide and 20 feet (20' = 6096mm) long, adjacent and parallel to the vehicle pull-up space.
- 23.7.3 If there are curbs between the *access aisle* and the vehicle pull-up space, then a *curb cut* complying with **521 CMR 21.00: CURB CUTS**, shall be provided.

23.7.4 Vehicle standing spaces and *access aisles* shall be level with surface slopes not exceeding 1:50 (2%) in all directions.

- 23.7.5 Vertical Clearance: A minimum of nine feet, six inches (9'6" = 2896mm) of vertical clearance shall be provided at *accessible* passenger loading zones and along at least one vehicle access *route* to such areas from *site entrance(s)* and exit(s).
- 23.8 VALET PARKING
Valet parking *facilities* shall provide a passenger loading zone complying with **521 CMR 23.7**, **Passenger Loading Zone** located on an *accessible route* to the *entrance* of the *facility*.

Besides being a serious barrier to anyone with disabilities, the conditions of this driveway are unsafe for even able-bodied persons. Anyone exiting from the passenger side will find it exceedingly difficult to open their door; it will swing shut on them as they try to exit. On the driver's side, it will be all too easy to simply fall out of the vehicle. The raised island shown in the visualizations is not raised at all. It is actually a sunken pit, almost two feet below the driveway, with no protective railing to protect the unwary visitor.

Additionally, there is the "hump" in the middle of the driveway. The two opposite slopes create a "Breakover Angle" of 13.2° . Many common passenger vehicles do not have sufficient ground clearance to bridge this hump. An unloaded Toyota Camry will bottom out at 11.7° . A Prius at 11° , Hyundai Sonata and Ford Fusion at 10.8° , Chevy Malibu 9.4° . A Mercedes E class sedan can tolerate only 7.4° and will likely incur serious damage trying to bridge the hump.
https://en.wikipedia.org/wiki/Breakover_angle



State laws regarding accessible pedestrian access by walkways and ramps also apply. The drawings provided so far are not sufficiently detailed to determine whether the project is compliant with 521 CMR in this respect.

From: Don Seltzer <timoneer@gmail.com>
Andrew Bunnell <ABunnell@town.arlington.ma.us>, KLau@town.arlington.ma.us, David Watson
<DWatson@town.arlington.ma.us>, rzsemlery@town.arlington.ma.us, Eugene Benson
To: <EBenson@town.arlington.ma.us>, Erin Zwirko <EZwirko@town.arlington.ma.us>, Jenny Raitt
<jrait@town.arlington.ma.us>
Date: 08/09/2020 02:24 PM
Subject: Docket #3602 - Safety Issue

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To: Arlington Redevelopment Board

The latest version of the design for the Hotel Lexington has created a significant safety issue for vehicles exiting the rear parking lot. The proposed retaining wall and plantings that border the driveway prevent a clear line of sight between the driveway and vehicles entering Clark St from Mass Ave, as well as pedestrians on the sidewalk.

The proposed retaining wall is 5.5' to 6' high, with additional plantings on top. The Zoning Bylaw addresses this situation, limiting such walls and plantings to only 2.5' high within a five foot setback area from the lot line.

5.3.12. Traffic Visibility ^[1]_[SEP]

*Visibility for Driveways. A fence, hedge, wall, sign or other structure or vegetation may be maintained on any lot provided that in the front yard area, **no such structure or vegetation shall be over two and one-half feet in height above the adjacent ground within five feet of the front lot line unless it can be shown that the vegetation or structure will not restrict visibility in such a way as to hinder the safe entry of a vehicle from any driveway to the street.***

In this particular case, the safety and visibility issues are magnified by the steep slope of the parking lot driveway. The sidewalk is commonly used by school children.

Please see attached drawing.

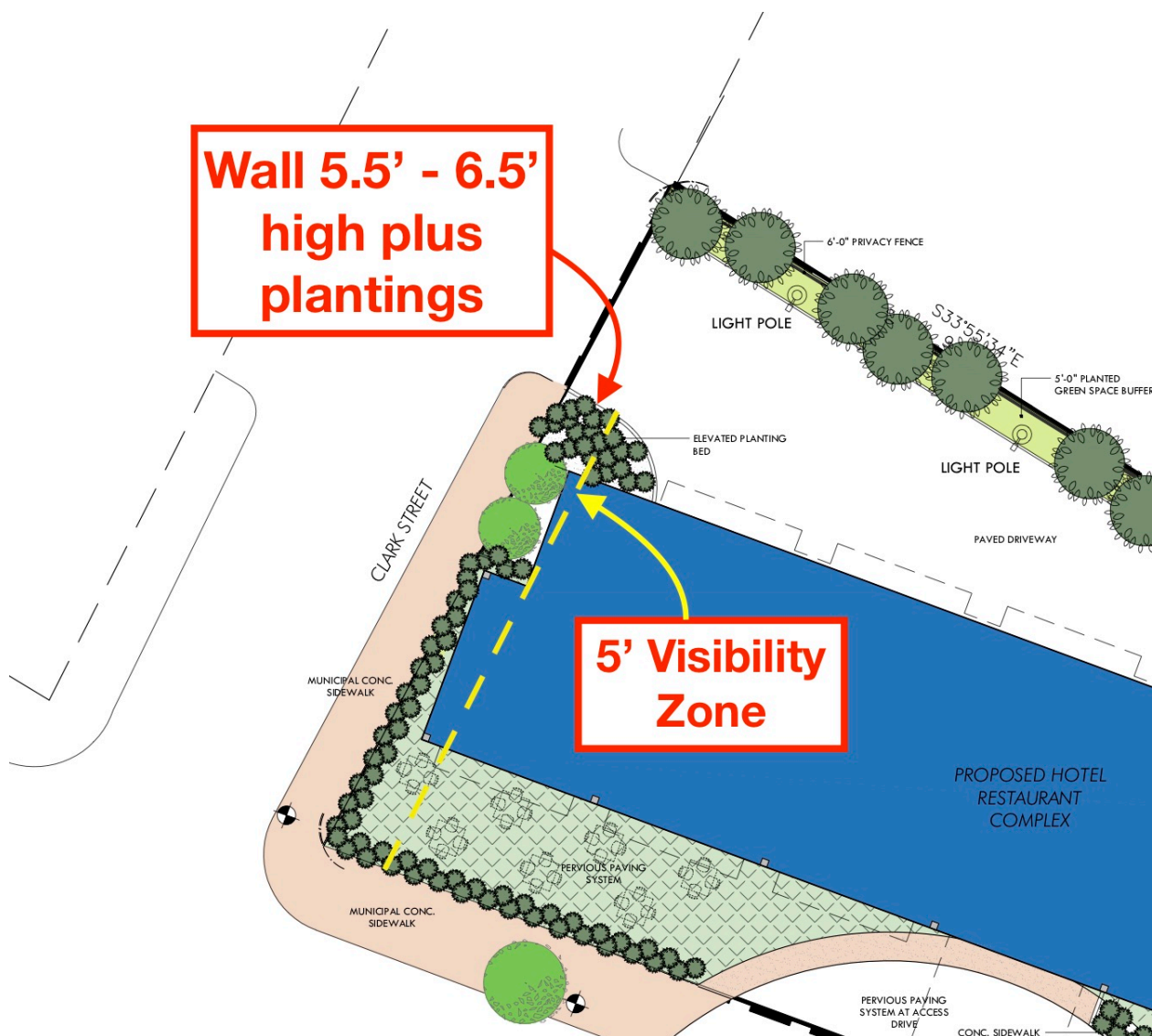
Don Seltzer

Attachments:

File: [Hotel lot driveway safety.pdf](#) Size: 1282k Content Type: application/pdf

5.3.12. Traffic Visibility

- Visibility for Driveways. A fence, hedge, wall, sign or other structure or vegetation may be maintained on any lot provided that in the front yard area, **no such structure or vegetation shall be over two and one-half feet in height above the adjacent ground within five feet of the front lot line** unless it can be shown that the vegetation or structure will not restrict visibility in such a way as to hinder the safe entry of a vehicle from any driveway to the street.





From: "Emily Sullivan" <ESullivan@town.arlington.ma.us>
To: "Emily Sullivan" <ESullivan@town.arlington.ma.us>
Date: 08/17/2020 07:55 AM
Subject: Fwd: Comments for ARB Docket 3602

From: Chris Loreti <cloreti@verizon.net>
Date: August 16, 2020 at 9:11:27 PM EDT
To: "abunnell@town.arlington.ma.us" <abunnell@town.arlington.ma.us>, "KLau@town.arlington.ma.us" <KLau@town.arlington.ma.us>, "EBenson@town.arlington.ma.us" <EBenson@town.arlington.ma.us>, "rzsembery@town.arlington.ma.us" <rzsembery@town.arlington.ma.us>, "DWatson@town.arlington.ma.us" <DWatson@town.arlington.ma.us>, Jenny Raitt <JRaitt@town.arlington.ma.us>
Subject: Comments for ARB Docket 3602

CAUTION: This email originated from outside of the Town of Arlington's email system. Do not click links or open attachments unless you recognize the REAL sender (whose email address in the From: line in "< >" brackets) and you know the content is safe.

Dear ARB Members and Secretary Ex Officio Raitt,

Attached please find my latest comments on Docket 3602, 1207-1211 Massachusetts Avenue, which I am submitting for the continued public hearing tomorrow evening. I request that these comments be made part of the official record for this docket.

I would also like to take advantage of the provision in Massachusetts law that allows those present at zoning hearings to be added to the list of parties that receive notice of the special permit decision. (See reference below.) The notice can be sent to me at the address following my name below.

Thank you,

Chris Loreti
56 Adams St.
Arlington, MA 02474

From MGL 40A, Section 15:

...and notice of the decision shall be mailed forthwith to the petitioner, applicant or appellant, to the parties in interest designated in section eleven, and to every person present at the hearing who requested that notice be sent to him and stated the address to which such notice was to be sent.

To: Arlington Redevelopment Board
cc: Jennifer Raitt, ARB Secretary Ex Officio
From: Chris Loreti, 56 Adams St., Arlington
Date: August 16, 2020
Re: Docket 3602, 1207-1211 Massachusetts Avenue and Scope of the ARB Authority

1. Introduction

I am writing as a current Arlington resident and former member of the Arlington Redevelopment Board (ARB) in response to the ARB's recent decision to unilaterally expand its powers to grant special permits in lieu of variances issued by the Zoning Board of Appeals as well as the implications of that decision for Docket 3602. The ARB assumed such powers in its July 20 vote on Docket 3625 and it has since received sanction for this new-found authority in an August 13, 2020 memorandum from Arlington Town Counsel to the ARB.

The ARB's granting of variances through the process of Environmental Design Review (EDR) has no basis in the law, and I am confident the ARB's decision on Docket 3625 will be overturned on appeal, should one be made. As described below, Town Counsel's opinion interprets Arlington's zoning bylaw in ways it has never been interpreted before, and grossly misstates the nature of past ARB decisions in the mistaken claim that they relaxed the dimensional, density, and parking requirements of the bylaw in ways not specifically authorized by the bylaw—that is, in the same way as a variance.

I am making these comments in the context of Docket 3602 because Town Counsel believes you can use the flawed reasoning in his memo to approve similar variances for the development proposed in this docket. Thus, I request that this memo be made part of the record for Docket 3602.

Below, I set forth the reasons Town Counsel is the wrong party to advise the ARB on this Docket, why his arguments concerning the ARB's authority to relax dimensional and density standards are incorrect, and why granting a special permit for Docket 3602 would be arbitrary, capricious, and contrary to the law.

2. The ARB Should Not Seek Legal Advice from Town Counsel on Docket 3602

Town Counsel's principal responsibility is to Arlington's Select Board. The Select Board is responsible for the sale of 1207 Massachusetts Avenue, one of the lots involved in the development under Docket 3602. If the ARB denies the special permit, the sale of 1207 Mass. Ave. will not proceed. Thus, Town Counsel's main client has a particular interest in the ARB granting the special permit beyond the ARB's authority to do so.

Town Counsel cannot credibly claim that he represents the entire town, including Town Meeting (its legislative body) and those residents who respect the law. Indeed, Town Counsel

has already demonstrated that his opinion related to the ARB's authority and this docket depends on whom he is representing.

When Arlington's Mixed-Use zoning bylaw amendment was passed by Town Meeting in 2016, ARB Chair Andrew Bunnell testified to Town Meeting that any use allowed as part of a mixed-use has to comply with what is already allowed by the zoning bylaw. His then-colleague on the ARB, Mike Cayer, reiterated the point stating that "We've worked with both the Inspectional Services, the head of Inspectional Services, as well as Town Counsel on the wording that's before you. And only the uses that are permitted in a particular district are the ones that can happen in a mixed use in that district¹."

It is notable that both Town Counsel and the head of Inspectional Services were present at Town Meeting during this testimony and neither objected to it. Now, four years later, as he represents Arlington's Select Board, Town Counsel gives a different interpretation of the mixed-use bylaw amendment, suggesting that the ARB can approve a special permit for a mixed use on the lot the Select Board is selling even though it contains a use that is not permitted by itself on that lot, thus directly contradicting the representations made by the ARB to Town Meeting when the Mixed-Use zoning amendment was passed².

It is unclear who, if anyone, asked Town Counsel for the opinion he provided in his August 13, 2020 memo to the ARB. It is the ARB's responsibility to request legal opinions, and to my knowledge it has not voted to do so at any of its hearings on this docket. In any case, it should be obvious to the ARB that outside counsel should be used for any legal advice it seeks given Town Counsel's inability to serve two masters on Docket 3602.

3. Town Counsel Misrepresents the Purpose of EDR in Arlington's Zoning Bylaw

Contrary to the account of Town Counsel, the establishment of the ARB as a special permit granting authority that would issue special permits subject to Environmental Design Review stemmed not from an over-worked ZBA as much as a general level of dissatisfaction with the way development proposals were being approved at the time.

As described in the report to Town Meeting, and the text of the bylaw change, the purpose of EDR was to allow more detailed environmental review of prominent special permit developments which would be possible with the staff support of the Planning Department. It was not to allow EDR to be used as an alternative to the variance process for project proposals that violated the dimensional and density regulations of the zoning bylaw.

Town Counsel makes particular note of Section 1.03 of the 1975 Zoning Bylaw, which is referenced by what was formerly Section 11.06 (Environmental Design Review). It should be no surprise that Section 1.03 was referenced. It is a listing of the numerous purposes of the Zoning Bylaw. One would certainly expect Section 11.06 to promote those purposes rather

¹ See copy of the Town Meeting transcript submitted by Christopher Loreti on January 27, 2020 for Docket 3602 under "Correspondence Received" for the ARB meeting of February 24, 2020.

² This suggestion was made in an email to me; to my knowledge the ARB has neither sought nor received a formal written opinion on the matter.

than work against any of them. In no way does this reference confer any special powers on the ARB beyond those explicitly described in the zoning bylaw. In fact, MGL 40A Section 9 requires such consistency of special permits with the purposes of the bylaw³.

3.1. Town Counsel Creates a False Narrative of a Bifurcated Approach to Special Permits in Arlington

Town Counsel tries to argue that special permits issued by the ARB have greater flexibility than those issued by the ZBA and that EDR has served as an alternative to bonus provisions available only to special permits issued by the ZBA. Both assertions are false.

Town Counsel, like counsel for the developer under Docket 3625, improperly seeks to extend the statement that EDR standards “shall not be regarded as inflexible requirements⁴” to mean that all requirements in the zoning bylaw are subject to modification by the ARB. There is no basis in the law for such an interpretation.

Town Counsel then goes on to suggest that various bonus provisions in the zoning bylaw were intentionally designed for ZBA special permits only because the ARB had the flexibility under EDR to achieve the same ends. This interpretation is clearly incorrect:

- The bonuses originally described in Section 6.05 for uses 2.05 (churches, etc.) and 2.07 (schools, etc.) made no mention of the ARB or EDR not because these bonuses were limited to the ZBA, but rather because they were available to both the ARB and the ZBA—and in the case of use 2.05 to churches allowed by-right in certain districts.
- The bonuses described in Section 6.12 may have originally omitted mention of the ARB’s ability to use them, but by 1985 this oversight was corrected for most of them.
- By 1991, the bylaw had been further corrected to include the ARB in both Section 6.12d and 6.29.

If the ARB thought it could use EDR to achieve the same ends as the bonus provisions of Section 6.12 and 6.29, it would have had no need to recommend amending the bylaw to include the ARB throughout those sections. Clearly, that was not the case.

³Special permits may be issued only for uses which are in harmony with the general purpose and intent of the ordinance or by-law, and shall be subject to general or specific provisions set forth therein; and such permits may also impose conditions, safeguards and limitations on time or use.

⁴ The first paragraph of the zoning bylaw section on EDR standards reads as follows:

3.4.4. Environmental Design Review Standards

The following standards shall be used by the Board and the Department in reviewing site and building plans. The standards are intended to provide a frame of reference for the applicant in the development of site and building plans as well as a method of review for the reviewing authority. They shall not be regarded as inflexible requirements and they are not intended to discourage creativity, invention, and innovation.

As Town Counsel’s Attachment “E” makes clear, the additions of the ARB to the bonus provisions of Section 6 did not reflect policy changes. Rather, they were merely administrative corrections made to make the bylaw consistent between the two boards. As such, it is no surprise that these changes didn’t attract any public comment during the warrant article hearing.

Today, there are virtually no differences in the provisions of the zoning bylaw that the ARB and ZBA apply to special permit applications that come before them—other than the EDR standards that apply to special permit applications that come before the ARB.

3.2. Town Counsel Improperly Conflates Site Plan Review with EDR to Suggest the ARB can Use EDR to Circumvent the Variance Process

Since the time that the ARB became a special permit granting authority, Arlington has not had site plan review. Town Counsel makes a common mistake of confusing Site Plan Review with the special permit process⁵.

The uninformed description of one author of the Town’s Master Plan notwithstanding, EDR, unlike Site Plan Review is a part of special permitting. It does not exist separately from the special permit process when those special permits are issued by the ARB.

More importantly, Site Plan Review does not allow the special permit granting authority to grant exceptions to the zoning bylaw that would otherwise require a variance. Town Counsel cannot provide any examples where courts have said otherwise. Thus, even though they are not relevant to EDR special permits issued by Arlington’s ARB, none of the court cases Town Counsel cites for communities that do have Site Plan Review do that.

3.3 Town Counsel Falsely Claims that EDR Has Been Used in the Past to Grant Exceptions to the Zoning Bylaw

As the Chair of the ARB at the time of the Brigham’s redevelopment (Docket 3386), I take particular exception to Town Counsel’s claim that an EDR condition was used to “carve out exceptions to zoning bylaw requirements” for open space. This claim is completely false.

In 2010, town officials had far greater respect for the town’s zoning bylaw than they do today. They did not try to convince the ARB that it could use the EDR special permit process to allow violations of the dimensional and density requirements of the zoning bylaw when variances were required. There were, in fact, several such violations in the Brigham’s redevelopment proposal. The applicant followed the procedures laid out in the zoning bylaw and obtained the necessary variances from the Zoning Board of Appeals as described in the ARB’s opinion⁶.

A variance was not needed to meet the open space requirements because the submitted plans met the requirement for usable open space and far exceeded the requirement for landscaped

⁵ See: https://masscptc.org/docs/core-ocs/Site%20Plan%20Review%20Module2%201_.pdf
As noted in the Conclusion: *Too many cities and towns confuse site plan review and special permits.*

⁶ See the second paragraph of Attachment F to Town Counsel’s memo

open space (See Attachment 1). Thus, while the conditions in the permit to provide public access to landscaped open space near the bike path, improvements and access to a pocket park near the high school, and the right of the public to cross the site to both of these areas certainly supported EDR-3 (Open Space), in no way did these conditions allow the developer an exception to the open space requirements of the zoning bylaw⁷.

Town Counsel's discussion of the special permit revision for the Common Ground restaurant is similarly nonsensical (Docket 2911). This permit was reopened due solely to the fact that the restaurant was increasing the number of seats (without changing the size or exterior of the building), and thus required more parking. The applicant simply used a long-standing provision in the zoning bylaw that allows both the ARB and ZBA to permit parking in public lots to substitute for the on-site parking requirements of the bylaw⁸. This provision has nothing to do with EDR.

The EDR criteria Town Counsel refers to in the decision for "Open Space" and "Preservation of Landscape" were completely irrelevant to the reopening of this special permit as they are not dependent on the number of seats in the restaurant. Open space does depend on the floor area, which did not change, and there were no increases in any open space non-conformities. As outlined in its rules, the ARB has the discretion to consider EDR criteria irrelevant, and often does⁹. The same does not apply to other requirements of the zoning bylaw.

4. Conclusion

Acting in his capacity as the attorney for the owner of a property for which a special permit is sought, Arlington's Town Counsel has inappropriately advised the Arlington Redevelopment Board that it may usurp the authority of the Arlington Zoning Board of Appeals to grant variances to the dimensional and density requirements of the Arlington zoning bylaw¹⁰.

He has done this by incorrectly describing Environmental Design Review as a flexibility mechanism under which certain developments are "eligible" when in fact EDR is an additional set of criteria those developments are *required* to meet before the ARB can grant a special permit.

Town Counsel is unable to cite any case law to support his claim that EDR (or even site plan review) may be used as an alternative means of granting a variance. He has cited no examples when the ARB has used or even attempted to use the EDR standards as a means of relaxing the dimensional and density requirements of the zoning bylaw. His claim that MGL 40A

⁷ Town Counsel's note that there was no existing usable open space on the site is both irrelevant and misleading for as the ARB decision states no usable open space was required for the former uses

⁸ This section (8.11 at the time) applies to public parking lots within 1000 feet of the site.

⁹ Indeed, the EDR instructions to the applicant state: "Where a particular standard is not applicable, a statement to that effect will suffice." Prior to recodification of the zoning bylaw in 2018, this same statement was in the bylaw itself under the procedures for EDR.

¹⁰ He has also improperly suggested that a mixed-use development can contain a use that would be prohibited on its own, in effect allowing use variances in Arlington where use variances are not allowed.

Section 9 grants the ARB authority to grant exceptions to the dimensional and density regulations in the zoning bylaw which otherwise would require a variance is completely false.

Town Counsel's misguided advice has serious implications for the ARB in rendering a decision on Docket 3602. The development proposed under this docket has numerous zoning violations, violations for which the ARB has no authority to grant the relief to which the developer thinks he is entitled (See Attachment 2). Thus, it would be arbitrary, capricious, and contrary to the law for the ARB to vote to grant this special permit. Until and unless these zoning violations are remedied, it will also provide aggrieved abutters an excellent basis upon which to appeal the granting of the special permit.

Attachment 1

DIMENSIONAL INFORMATION FOR PROPOSED APARTMENT USE



TOWN OF ARLINGTON
Dimensional and Parking Information
for Application to
The Zoning Board of Appeals or
The Arlington Redevelopment Board

Docket No. _____

1. Property Location 30-50 Mill Street Zone B2A
2. Owner CSB Transaction LLC Address 1374 Massachusetts Avenue
c/o Cambridge Savings Bank Cambridge, MA 02138
3. Present Use/Occupancy: No. of Dwelling Units _____ Use(s) and their Gross Floor Area
Office / Warehouse / Restaurant / 65,253 Gross S.F.
4. Proposed Use/Occupancy: No. of Dwelling Units _____ Use(s) and their Gross Floor Area
116 Apartment Units with 129,997 GFA

FILL IN COMPLETELY

		Present Conditions	Proposed Conditions	Min. or Max. Required by Zoning for Proposed Use
5.	Lot Size (Sq. Ft.)	5 168,462	168,462	min. 20,000
6.	Frontage	6 79.81 Ft. 26.04 Ft.	79.81 Ft. 26.04 Ft.	min 100 Ft.
7.*	Floor Area Ratio	7 0.39	0.79	max. 0.80
8.*	Lot Coverage (%) (where applicable)	8 N/A	N/A	max. N/A
9.*	Lot Area per Dwelling Unit (Sq. Ft.)	9 N/A	1,452 Ft.	min. 1,450
10.	Front Yard Depth (Ft.)	10 31.3 Ft.	204.3 Ft.	min. 15.0 Ft.
11.	Side Yard Width (Ft.)	11 11.3' OVER PL	27.6 Ft.	min. 27.7 Ft.
12.	Rear Yard Depth (Ft.)	12 125.7 Ft.	102.4 Ft.	min. 30.0 Ft.
13.*	Height Stories	13 1 & 2 Stories	4 Stories Res 1 Story Podium Parking	max. 3 Stories
	Feet	13 N.A.	59.2 FT.	max. 30 Ft.
14.	Open Space (% of G.F.A.) Landscaped (Sq. Ft.)	14 11.1%	50.5%	min. 10%
	Usable (Sq. Ft.)	14 0%	25%	min. 25%
15.	Parking Spaces (No.)	15 122	166	165
16.*	Parking Area Setbacks (Ft.) (where applicable)	16 0 Ft	7.4 FT.	min. 5.0 FT.
17.*	Loading Spaces (No.)	17 6	N/A	N/A
18.*	Type of Construction	18 N/A	N/A	N/A
19.	Distance to Nearest Principal Building (Ft.)	19 21.7 Ft.	115.37	min. 60 Ft.

* If information is not required in this case indicate "N/A"

Form revised 6/2009

Attachment 2

Zoning Violations in the Special Permit Application for 1207-1211 Mass. Ave. (Docket 3602)
(Zoning Bylaw section number follow each listed violation.)

- Hotels are not permitted in the B2 zoning district (1207 Mass. Ave.) 5.5.3 Use Regulations for Business Districts and 3.3.3 (A) Decision Criteria for special permits
- The hotel use is improperly considered to be non-residential. Hotels are listed as residential uses under Section 5.5.3 Use Regulations for Business Districts. In addition, where terms are not defined, Section 2 (Definitions) refers to the state building code: Section 310.3 of this code (IBC 2015) lists hotels and motels under Residential Group R1
- The maximum floor area ratio is exceeded. 5.5.2(A) B District Building Height and Floor Area Ratio Regulations
- Bonus provisions for floor area do not apply to lots of less than 20,000 square feet when the principal use is residential. 5.3.6(A)(2) and does not apply to lots in the B2 zoning district (1207 Mass. Ave.) in any case. 5.3.6(C). And even if it did apply, the land area planned for an easement is improperly included in the calculated maximum floor area. 5.3.6(D)(5)
- The proposal lacks the required usable open space. 5.5.2(A) B District Lot Regulations and 2. Definitions
- The proposal lacks the required landscaped open space. 5.5.2(A) B District Lot Regulations and 2. Definitions
- The step-back on the top floor of the building does not meet the requirements of the zoning bylaw. 5.3.17
- The front yard on Clark St. does not meet the requirements of the bylaw for both the building itself and the retaining wall (which is a structure subject to the yard requirements) and the applicant has not provided sufficient justification for any relief. 5.3.8(A) and 5.3.16

From: "Emily Sullivan" <ESullivan@town.arlington.ma.us>
To: "Emily Sullivan" <ESullivan@town.arlington.ma.us>
Date: 08/17/2020 09:01 AM
Subject: Fwd: Docket 3602 - Correspondence to ARB on 1207 -1211 Mass Ave

From: Don Seltzer <timoneer@gmail.com>
To: Jenny Raitt <jraitt@town.arlington.ma.us>
Date: Mon, 17 Aug 2020 08:52:36 -0400
Subject: Docket 3602 - Correspondence to ARB on 1207 -1211 Mass Ave

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To: Arlington Redevelopment Board

Having reviewed the most recent packet of documents belatedly released to the public on Thursday afternoon, I am surprised by the apparent intention of the Board to accept the current plans and approve a Special Permit at this coming Monday hearing. Although there have been a few improvements from previous submissions, the proposal is deficient on several key issues.

Among these are:

Allowable Floor Area

The numbers provided by the applicant's lawyer are incorrect and contradict even the numbers provided by the architects on the drawings. There are errors of fact, of basic arithmetic, and incorrect interpretation of the zoning bylaw definitions. Even with all of these inaccuracies, the applicant needs to resort to a highly dubious claim of deeded 'Public Use Access' for bonus footage. No resident of the neighborhood has expressed any desire for this frivolous public performance/art display area tucked away in a corner of the property.

Building Height

This issue was raised at the very first hearing in July 2019, yet has remained unaddressed by the applicant. The two lots are subject to the Reduced Height Buffer Area restrictions. For the portion of the building located in the B4 zone the height limits are 50' and four stories, for which the plans seem to comply. But for the portion of the building located in the B2 zone, the reduced limits are 40' and three stories. The current plans exceed both, to the great detriment to the residential district just behind. These neighbors bought their homes with the expectation that the zoning bylaw would be enforced to protect them from such oversized structures looming over their backyards.

Corner Lot Yard Setback

The Board is quite familiar with this provision. It was only last year that a warrant article was proposed to alter the required setback on a side street. The Board deliberated this change and rejected it unanimously. The applicant's attorney has argued for an exception based upon the 'uniqueness' of the situation, but the reasons given do not even address anything about the lot, street layout, or neighborhood impact. It rests mostly on questionable voodoo economics of inflated monetary value to the town. The Board has a responsibility to consider the very real detrimental impact on the residents who live just behind the project.

Rear Parking Lot and Driveway

The rear parking lot is simply a poorly designed disaster. The applicant has never even submitted a proper rear elevation drawing that shows the garage under the building, possibly because the ceiling height does not meet the usual standards. Every rear elevation drawing that has been submitted has included a privacy fence to hide any details.

The width of the lot is woefully short of what is needed for any delivery truck to turn around. Any truck that makes the mistake of entering front end first will be forced to back out blindly onto Clark St when exiting. Shuffling the tandem parking in the tight space will be a nightmare for the parking valet. These are matters of poor design, and not necessarily an issue for the Board to consider. But what cannot be overlooked is the dangerous safety issue created by the six foot high retaining wall coming right up to the Clark St sidewalk. This is a clear violation of both zoning bylaw and common sense.

Front Driveway

The semi-circular driveway in front of the hotel is a design bunder. It is a direct consequence of the architect's failure to notice that the frontage on Mass Ave is not level but sloped, falling off by about four feet from west to east. The original 'flat earth' design has been poorly adapted, and the now contorted front driveway is unpassable for typical passenger sedans as currently dimensioned. It is doubtful that tour buses will be able to negotiate the tight turning radius. There is also no ADA compliant passenger loading/drop-off area in front of the hotel entrance as clearly required by state law.

The Arlington Disabilities Commission has requested a meeting with the developer to discuss ADA issues including the failure to provide any accessible hotel rooms as required by state law. The applicant's attorney has dismissed these as minor issues to be worked out with the building inspector after the Board approves the project.

Hotel is Not a Permitted Use in a B2 district

Some Board members have been proceeding under the assumption that Town Counsel has issued a legal opinion on this matter. That is not correct. I have asked Doug Heim and he has replied that the Board has never requested a legal finding from him and he has never issued one. The source of this misunderstanding is apparently some email correspondence between residents and Mr Heim on this topic. In that correspondence Mr Heim gave some general thoughts which he would later characterize as "the genesis of an informal opinion".

If the Board were to approve of a hotel in a B2 district it would be a direct repudiation of what two Board members promised to Town Meeting in 2016 when Mixed Use was adopted. Repeatedly the public was assured that no use that was not already permitted in a district would be allowed under Mixed Use. The promise was unequivocal and the Chairman pledged that the current and future Boards would honor that pledge.

Attached are detailed documents regarding all of the above points.

Don Seltzer

Docket 3602 - Allowable Floor Area

Throughout the hearing process, the applicant has been slow to provide specific calculations of the Gross Floor Area. In the most recent submission, the applicant's lawyer claims **22,845** sf.

This is directly contradicted by the architect's plans which show the following:

1st Floor - 5416
2nd Floor - 6457
3rd Floor - 6457
4th Floor - 4805
Total - **23,135** sf

Buried within a footnote is the interesting qualification that the applicant considers the front and rear facades of the hotel to be 'bay windows' and that they are not being included in the calculations.

This is inaccurate for several reasons.

They are not bay windows.

Gross Floor Area is calculated from exterior wall to exterior wall (Section 2 Definitions)
The reference to bay windows in the Bylaw is for a different calculation, that of building cross-sectional area.

The architects have continued to ignore the below grade floor area. The parking area is exempt but the other 1817 sf is included in Gross Floor Area. (5.3.22)

The correct summation of Gross Floor Area is **26,052** sf.

For a 14,030 sf lot, the maximum GFA is 21,045 sf.

The applicant is seeking a 10% 'bonus' provision, or 23,150 sf

The basis of the claim for a bonus is a suggested deeded easement of a 675 sf area for public performances and art display in the front of the hotel. Aside from the dubious value of such an area (has any resident of the neighborhood asked for it?), such a bonus is specifically excluded for lots under 20,000 sf where the principal use is residential. Furthermore, the bonus can only apply to the B4 portion of the building; bonus exceptions are not allowed in B2 districts.

Even if it were allowed, the applicant's lawyer has miscalculated the benefit provided. The creation of a 675 sf easement reduces the basis for lot size by an equal amount, reducing it to 13,355 sf, or an allowable GFA of 20,033 sf. With a 10% bonus, the maximum GFA is 22,036 sf, well below any of the claimed Gross Floor Areas cited above.

The proposed building is simply too large for the lot it is on.

Docket 3602 - Building Height

The proposed building is clearly subject to **5.3.19. Reduced Height Buffer Area**. More than a dozen homes in the adjacent R2 district are within the specified distance of this article.

The applicant's design assumes that only the reduced height limits for a B4 district apply to his project (4 stories, 50 feet). However, one third of the building is in a B2 district, where the reduced height limits are 3 stories, 40 feet. This point was made in the first hearing of the project in July 2019 but has simply been ignored since then.

Perhaps this is a misunderstanding due to typographical errors in the Tables of Dimensional and Density Regulations of the 2018 Recodified version of the Bylaw. As with similar typographical errors of this nature that have been uncovered, the Board has referred to the pre-recodified version for clarification. Below is that section of the Bylaw which makes clear the different height limits for buildings beyond the Reduced Height Buffer zone and within the Reduced Height Buffer Zone.

SECTION 6.00 - TABLE OF DIMENSIONAL AND DENSITY REGULATIONS (Continued)

				Intensity of Development								Open Space	
ART. 8, STM 3/85; ART. 11,ATM 4/98		Lot Requirements, <u>Minimum^M</u>		Fl. Area Ratio Maximum	Lot Coverage Maximum Percent	Minimum Lot Area per Dwelling Unit, Sq. Ft.	<u>Minimum Yard, Ft.^P</u>			<u>Height Maximum</u>		<u>Minimum</u> Percent of Gross <u>Floor Area</u>	
Dis- trict	Use	Size, Sq. Ft.	Frontage, Ft.				Front ^E	Side ^E	Rear ^E	Stories	Feet ^G	Landscaped	Usable
B2 (cont.)													
ART. 6, ATM 4/16													
	Mixed Use	-	50	1.50	NA	1,450	-	-	10+(L/10)	4 ^T 3	50 40	10%	- ^H
		>20,000	50	1.00	NA	1,450	0	0	10+(L/10)	4 ^T 3	50 40	10%	- ^H
	Any other permitted use	-	50	1.00	NA	1,450	0	0	10+(L/10)	3	35	10%	- ^H

The Reduced Height Buffer Zone limitations are a great inconvenience to developers who wish to erect tall buildings adjacent to residential districts. But the clear purpose of the Bylaw is to protect these residents. These neighbors bought their homes with the expectation that the zoning bylaw would be enforced to protect them from such oversized structures looming over their backyards. If they bought before 2016, they were protected against any new next door development in the B2 zone being more than 35 feet high. The 2016 Town Meeting approval of Mixed Use diluted that protection but came with the promise that such development could be no more than 3 stories or 40 feet.

For the Board to allow 4 stories and 45 feet, perched an additional 7 feet above the level of the adjacent homes, is an unjustifiable betrayal of those resident's rights. It is the visual equivalent of a Double-sized Trump border wall adjoining their backyards.



Docket 3602 - Corner Lot Setbacks

The applicant is asking for an exemption from **5.3.8** which specifies that for corner lots, the setback for the street yards must be the same as the required front yard depths of the adjoining lots. For the Clark St frontage, this would be the required front yard setback for the adjoining R2 district or 20 feet. In arguing for an exemption, the applicant has thrown everything but the kitchen sink at the Board, hoping that something will stick. The arguments made are factually wrong, misstate the Bylaw, involve voodoo economics, or appeal to factors that are irrelevant in deterring whether the particular site has unique features that justify such an exemption. Attempting to dissect the various arguments made,

- A. Because the older home at Peirce and Clark St has a 7.9' yard setback from Clark, the applicant argues that his building should be allowed the same setback. That home, at 26 Peirce, is a grandfathered non-conformity. The applicant has no right to any grandfathered exemption and must comply with the stated required setback of 20 feet. Previously the applicant had made a similar appeal based upon an article relating to average front yard setbacks, but which did not apply in this instance because it was limited to vacant lots in residential districts.
- B. The applicant incorrectly states that the proposed design has a setback of 5.7' from the lot line. The architect's latest drawings show that the minimum setback is just 1.8' from the property line.
- C. The applicant's claim to specific conditions unique to the proposal do not include anything related to the site, topography, or neighborhood. An entirely different argument is presented, that the need for a hotel is of such importance that inconvenient Bylaws meant to protect the neighborhood should be waived. Part of this rationale is highly dubious estimates of tax revenue. The applicant claims that if forced to eliminate four rooms from his plans, it will cost the Town \$1,500,000 over the next 40 years.

Let us do a fact check on those numbers. The applicant is claiming that each room in the hotel will generate \$1.5M/4 or \$375,000 in room occupancy taxes over 40 years, or \$9375 per year. With a 5% local room tax, that means that the hotel will operate at 100% capacity, 365 days a year, for 40 years, charging an average room rate of \$513 per night.

By comparison, Homewood Suites in east Arlington generated about \$4000 per room in hotel taxes in 2019, pre-COVID. And Homewood Suites has big roomy suites, some with fireplaces, an exercise room, a business/computer center, and a choice of ample free or valet parking.

And Hotel Lexington? No knowledgeable traveller would pay anywhere near the same rate for a room at this so-called Boutique Hotel. Tiny rooms with little furniture, just a desk, bed, and nightstand. No dresser or bureau. A cramped bathroom. A tiny closet

that is little more than a short hanging rod. This is no fancy boutique hotel, it is designed like a cheap Econolodge. For visiting tourists? There is no place to put more than one change of clothes, nor storage for luggage. This is the kind of place for a single business traveler on a quick overnight.

D. The applicant resorts to an argument familiar to all parents, the “But you let Johnny do it” argument, referring to the Board’s decision to grant similar corner lot setback relief for the Toraya Block redevelopment. This is a predictable consequence of that decision, that every project that followed would demand similar exceptions. But the Toraya Block did have some conditions unique to the site. The existing grandfathered building had no yard setback on Lockeland and the proposed redevelopment was nearly entirely in the same footprint. It was also argued that the large sweeping curve of Lockeland at that site compensated for the loss of any sight lines from the adjoining residential property.

Are there any such “unique” conditions at Mass Ave and Clark St to justify relief? Just the opposite, the site topography is such that the lack of a Clark St yard setback is highly detrimental to the neighborhood. The height of the proposed Hotel, its elevated position above the Peirce St homes, and the north-south relationship already create significant winter shadow impact on some of the homes. For those families living at 26-28-30 Peirce St, the elimination of that 20 foot yard setback means the further reduction of sunlight for several mid-winter months to just two hours a day. Perhaps they should be compensated with the \$10K or so in room tax that the Town will reap from those extra rooms.

Docket 3602 - Front Driveway

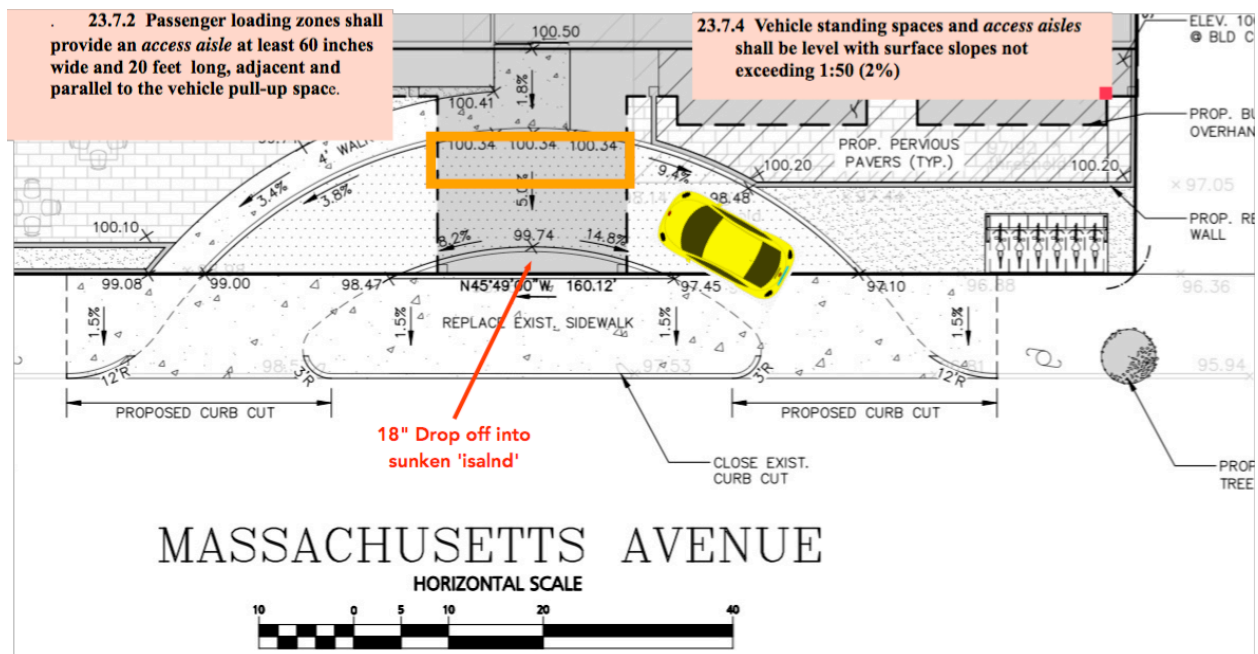
The circular front driveway does not comply with state mandated regulations 521 CMR 23 Parking and Passenger Loading Zones.

The Passenger Loading Zone in front is required to have an access aisle at least 20' x 5', and level (less than 2% grade in all directions).

The designed area does not come close to meeting this standard. It is slanted at a 5% grade crosswise. Lengthwise the grade is even steeper.

There is insufficient driveway width to accommodate both a standard size car and the 5' wide access aisle.

On the driver's side there is a dangerous 18" drop off from the driveway to the sidewalk island.



Summary of Relevant Zoning Bylaws for Hotel Lexington Proposal

Section 2 Definitions

Gross Floor Area: The sum of the horizontal areas of all stories of a building or buildings on a lot, measured from the exterior faces of exterior walls, or in the case of a common wall separating two buildings, from the centerline of such common wall as regulated under Section 5.3.22.

Relevance: Applicant is arguing that that the front and rear projecting facades are 'bay windows' and do not count towards gross Floor Area. Applicant is also ignoring areas in the basement or cellar area.

5.3.8. Corner Lots and Through Lots

A. A corner lot shall have minimum street yards with depths which shall be the same as the required front yard depths for the adjoining lots.

Relevance: Applicant is asking for relief from this requirement under 5.3.16, which requires specific conditions unique to the proposal. Applicant has also cited 5.3.10 for an exception, which only applies to R districts. Furthermore, 5.3.10 only applies to development of a vacant lot.

5.3.10. Average Setback Exception to Minimum Front Yard; All R Districts

Where the required lot frontage of developed residential lots along a block amounts to more than 50% of the block frontage, and where said development has an average setback less than that required by this bylaw, then any vacant lot setback for a residential use may be reduced to said average of the existing development.

5.3.16. Yards or Setbacks for Lots Adjoining a Street or Public Open Space

In cases subject to Section 3.4, Environmental Design Review, the Arlington Redevelopment Board in evaluating the proposal may grant a special permit to adjust

the required setbacks set forth elsewhere in this Bylaw to account for **specific conditions unique to the proposal**.

5.3.17. Upper-Story Building Step Backs

For buildings more than three stories in height, an additional 7.5-foot step-back (upper story building setback) shall be provided beginning at the third story level or 30 feet above grade, whichever is less. **The upper story step-back shall be provided along all building elevations with street frontage, excluding alleys.**

5.2.4. Multiple Principal Uses

A lot or structure located in the R6, R7, B1, B2, B2A, B3, B4, B5, PUD, I, MU, and T districts may contain more than one principal use as listed in Section 5.4.3 Use Regulations for Residential Districts, Section 5.5.3 Use Regulations for Business Districts, or Section 5.6.3 Use Regulations for MU, PUD, I, T, and OS Districts. **For the purposes of interpretation of this Bylaw, the use containing the largest floor area shall be deemed the principal use and all other uses shall be classified as accessory uses.** In the case of an existing commercial use, the addition or expansion of residential use within the building footprint shall not require adherence to setback regulations for residential uses even if the residential use becomes the principal use of the property.

5.5.3. Use Regulations for Business Districts

Class of Use	B1	B2	B2A	B3	B4	B5
Residential						
Single-family detached dwelling	Y	Y	Y	Y	Y	Y
Two-family dwelling, duplex dwelling	Y	Y	Y	Y	Y	Y
Six or more single-family dwellings or six or more units in two-family dwellings or duplex dwellings on one or more contiguous lots	SP	SP	SP	SP	SP	SP
Three-family dwelling	SP	SP	SP	SP	SP	SP
Townhouse	SP	SP	DP	SP		SP
Apartment building		SP	SP	SP	SP	SP
Conversion to apartments, up to 18 units per acre, with no alteration to the exterior of the building	SP					
Single-room occupancy building	SP					SP
Group home	Y	Y	Y	Y	Y	Y
Hotel/Motel			SP	SP	SP	SP
Conversion of one or two-family dwelling to bed and breakfast	SP	SP	SP	SP	SP	SP
Assisted living residence				SP		
Dormitory (Note: permitted if use is for educational or religious purposes.)	Y	Y	Y	Y	Y	Y

Relevance: Applicant is arguing that the principal use is not residential, despite the table in 5.5.3 listing hotel as a residential use. This distinction is important because the applicant is asking for relief under 5.3.6 which is not allowed for lots under 20,000 sf when the principal use is residential. The principal use is clearly hotel residential, and the accessory use is restaurant.

5.3.6. Exceptions to Maximum Floor Area Ratio Regulations (Bonus Provisions)

A. The Board of Appeals or the Arlington Redevelopment Board, as applicable, may grant a special permit subject to the standards in Section 3.3 or 3.4, as appropriate, to allow a maximum gross floor area higher than is permitted in the district, subject to the procedures, limitations, and conditions specified below, for a lot (or part of a lot) which meets the following basic requirements:

- (1) The lot (or part of a lot) is in a district with a floor area ratio of 1.2 or greater.
- (2) The lot (or part of a lot) **is not less than 20,000 square feet when the principal use is residential**. When the principal use is non-residential, no minimum lot size is required provided all other provisions of this Section 5.3.6 are satisfied.

C. Further restricts this bonus exception to just the B2A, B4, B5, R6, and R7 districts. There is no allowable bonus for B2.

5.3.22. Gross Floor Area

A. For the purposes of this bylaw, the following areas of buildings are to be included in the calculation of Gross Floor Area:

- (1) Elevator shafts and stairwells on each floor;

- (2) Attic areas with headroom, measured from subfloor to the bottom of the roof structure, of seven feet three inches or more, except as excluded in (4) below;
- (3) Interior mezzanines;
- (4) Penthouses;
- (5) Basement areas except as excluded in (2) below;
- (6) Cellars in residential uses;
- (7) All-weather habitable porches and balconies; and
- (8) Parking garages except as excluded in (1) below.

B. For the purposes of this bylaw, the follow areas of buildings are to be excluded from the calculation of Gross Floor Area:

- (1) Areas used for accessory parking, or off-street loading purposes;
- (2) Basement areas devoted exclusively to mechanical uses accessory to the operation of the building;
- (3) Open or lattice enclosed exterior fire escapes;
- (4) Attic and other areas used for elevator machinery or mechanical equipment accessory to the operation of the building; and
- (5) Unenclosed porches, balconies, and decks.

Relevance: Applicant is undercounting Gross Floor Area

5.3.12. Traffic Visibility

- **Visibility for Driveways.** A fence, hedge, wall, sign or other structure or vegetation may be maintained on any lot provided that in the front yard area, no such structure or vegetation shall be over two and one-half feet in height above the adjacent ground within five feet of the front lot line unless it can be shown that the vegetation or structure will not restrict visibility in such a way as to hinder the safe entry of a vehicle from any driveway to the street.

Relevance: Visibility on one side of the rear driveway is severely limited by a 6 foot retaining wall topped by vegetation.

5.3.19. Reduced Height Buffer Area

A. When two different maximum height limits are specified for the same zoning district in any Table of Dimensional and Density Regulations in this Section 5, the lower limit shall apply to any lot or part of a lot located in a height buffer area unless it is determined as a specific finding of a special permit that the properties in the adjacent R0, R1, R2, or OS district would not be adversely affected due to existing use or topographic condition. A height buffer area is defined as a lot or part of a lot which is located at a lesser distance from any land, not within a public way, in an R0, R1, R2 or OS district than the following:

Land in R0, R1, R2, OS is located	Lower height shall apply
Between northwest and northeast	Within 200 feet
Easterly, between northeast and southeast, or westerly between northwest and southwest	Within 150 feet
Southerly, between southeast and southwest	Within 100 feet

Relevance: For the B4 section of the lot, the applicable height limits are 50 feet and 4 stories. For the B2 section of the lot, the applicable limits are 40 feet and 3 stories.

Docket 3602 - Promises at 2016 Town Meeting

To refresh your memories of past promises,
See <https://youtu.be/kV19uWEgelY>

Transcript Town Meeting 2016

...If you look it's a little unclear on the map but the second line on our key here is **B2 neighborhood business district** and these are interspersed throughout town. They are traditionally small businesses districts with smaller businesses. **You won't see major developments going in in this kind of a district.**

Any use that comes in to a neighborhood has to comply with what's already permitted in that district, and it also has to be within the character of the neighborhood.

Part of the reason that the ARB has decided to keep special permit review over this is so that it can be ensured that we're protecting neighborhoods from being overrun and seeing that Palo Alto effect that the other speaker talked about. It is important to us that there is some review over these projects from the beginning so that we're not seeing monstrosity x' come into town and seeing the kind of things that people don't want. It is an open process, the special permit is a collaborative open process where people there do have the opportunity to come in and state their

case and and advise the ARB on how we should be voting and what projects we should be looking. **At what projects we should say, maybe it's time to go back to the drawing board and come back with something a little more appropriate for the neighborhood**

...Again the the use has to fit the neighborhood as to what's already allowed under zoning and it will be the ARB. whether it's the current crop or any future crop will be committed to the special permit review, the environmental design review. We look at all impacts not just an architect's rendering but we welcome and support input from the community so that they can come in and say I don't think that this this project necessarily fits my neighborhood, I don't think it's appropriate, and we can we can tell that to the developers. You know that's that's your opportunity to come in and speak your mind. It's a long process.

...

It has to fit within the permitted use. A parking garage won't be permitted in there before parking garage isn't permitted. Residential on top of a gas station won't be permitted if that use is not already permitted. **It has to fit what's already allowed under zoning and it has to fit within the character of the neighborhood being considered...**

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Relevance: Applicant is arguing that that the front and rear projecting facades are 'bay windows' and do not count towards gross Floor Area. Applicant is also ignoring areas in the basement or cellar area.

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Six or more single-family dwellings or six or more units in two-family dwellings or duplex dwellings on one or more contiguous lots	SP	SP	SP	SP	SP	SP
Three-family dwelling	SP	SP	SP	SP	SP	SP
Townhouse	SP	SP	DP	SP		SP
Apartment building		SP	SP	SP	SP	SP
Conversion to apartments, up to 18 units per acre, with no alteration to the exterior of the building	SP					
Single-room occupancy building	SP					SP
Group home	Y	Y	Y	Y	Y	Y
Hotel/Motel			SP	SP	SP	SP
Conversion of one or two-family dwelling to bed and breakfast	SP	SP	SP	SP	SP	SP
Assisted living residence				SP		
Dormitory <i>(Note: permitted if use is for educational or religious purposes.)</i>	Y	Y	Y	Y	Y	Y

Relevance: Applicant is arguing that the principal use is not residential, despite the table in 5.5.3 listing hotel as a residential use. This distinction is important because the applicant is asking for relief under 5.3.6 which is not allowed for lots under 20,000 sf when the principal use is residential. The principal use is clearly hotel residential, and the accessory use is restaurant.

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- (8) Parking garages except as excluded in (1) below.

B. For the purposes of this bylaw, the follow areas of buildings are to be excluded from the calculation of Gross Floor Area:

- (1) Areas used for accessory parking, or off-street loading purposes;
- (2) Basement areas devoted exclusively to mechanical uses accessory to the operation of the building;
- (3) Open or lattice enclosed exterior fire escapes;
- (4) Attic and other areas used for elevator machinery or mechanical equipment accessory to the operation of the building; and
- (5) Unenclosed porches, balconies, and decks.

Relevance: Applicant is undercounting Gross Floor Area

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- **Visibility for Driveways.** A fence, hedge, wall, sign or other structure or vegetation may be maintained on any lot provided that in the front yard area, no such structure or vegetation shall be over two and one-half feet in height above the adjacent ground within five feet of the front lot line unless it can be shown that the vegetation or structure will not restrict visibility in such a way as to hinder the safe entry of a vehicle from any driveway to the street.

Relevance: Visibility on one side of the rear driveway is severely limited by a 6 foot retaining wall topped by vegetation.

5.3.19. Reduced Height Buffer Area

A. When two different maximum height limits are specified for the same zoning district in any Table of Dimensional and Density Regulations in this Section 5, the lower limit shall apply to any lot or part of a lot located in a height buffer area unless it is determined as a specific finding of a special permit that the properties in the adjacent R0, R1, R2, or OS district would not be adversely affected due to existing use or topographic condition. A height buffer area is defined as a lot or part of a lot which is located at a lesser distance from any land, not within a public way, in an R0, R1, R2 or OS district than the following:

Land in R0, R1, R2, OS is located	Lower height shall apply
Between northwest and northeast	Within 200 feet
Easterly, between northeast and southeast, or westerly between northwest and southwest	Within 150 feet
Southerly, between southeast and southwest	Within 100 feet

Relevance: For the B4 section of the lot, the applicable height limits are 50 feet and 4 stories. For the B2 section of the lot, the applicable limits are 40 feet and 3 stories.

5.3.12. Traffic Visibility

Visibility for Driveways... no such structure or vegetation shall be over two and one-half feet in height above the adjacent ground within five feet of the front lot line



Comments on Proposed Hotel/Restaurant at 1207-1211 Mass Ave, Arlington

Docket # 3602 – Special Permit and Environmental Design Review

To: Andrew Bunnell, Chair, Arlington Redevelopment Board and Jenny Raitt, ARB Secretary Ex Officio
jraitt@town.arlington.ma.us; EZwirko@town.arlington.ma.us; ABunnell@town.arlington.ma.us;
DWatson@town.arlington.ma.us; KLau@town.arlington.ma.us; rzsemlery@town.arlington.ma.us;
EBenson@town.arlington.ma.us

From: Ann LeRoyer, 12 Peirce St., Arlington, 781-646-7254, annleroyer12@gmail.com, TMM Precinct 17

Date: June 29, 2020

These comments reiterate and expand on some of the statements that other neighbors and I made during the ARB's continued public hearing on this proposal on May 18, 2020.

Regarding the 5/11/20 Letter from Mary Winstanley O'Connor (Doherty lawyer) to Jenny Raitt

1. Bonus FAR – "The petitioner is proposing 'public access' space which will provide for a public art and presentation area located in the front right area of the Property. As such, the Property ... is entitled to a 10% increase in FAR."

Is that argument, the provision of public access space, sufficient to grant increased FAR? Such access would be weather-dependent, and thus would be in effect only during summer months. Further, no plan or design has yet been provided to justify this request. No decision about bonus FAR in exchange for "public access" should be considered until it is vetted more thoroughly.

Members of the neighborhood have already expressed concerns about noise and hours of operation of the proposed outdoor patio seating/dining area. Adding additional outdoor activity is also problematic and requires more explanation.

2. Parking – The petitioner is requesting a reduction in required parking, but has not yet provided any details about how they will accommodate overflow from hotel usage or the parking needs for restaurant clients and employees. As the neighbors have noted previously, the additional traffic and parking activity generated by this proposed project are of grave concern. Further information is needed to address how these various parking needs will be accommodated so that the nearby residential streets (Clark, Peirce and Locke) are not overburdened as a result.

Although hotel parking is to be handled by a valet, he/she will still be driving in and out of the parking area on Clark Street many times a day, and will have to make either a difficult left turn onto a busy Mass Ave or drive around the block on Peirce and Forest Streets to reach the front of the hotel. What about when the valet is absent, unavailable or too busy? What about hotel or restaurant customers who may not know the rules regarding self-parking under the hotel? Again, much more information is needed on how these issues will be addressed.

We look forward to seeing the comprehensive traffic study that the ARB has requested before we can comment further about this complicated parking/traffic situation.

3. Upper Story Step Back (setback) – The petitioner is asking to reduce or eliminate the required step back on the 4th floor. She argues that this mixed-use project "contains a boutique hotel on substantially unimproved lots." In fact, the B-4 vehicle-related lot is owned by James Doherty and his real estate trust. He has owned it since 2012, so he is responsible for its "unimproved" appearance, including abandoned vehicles, stacks of tires and other trash, and storage containers.

A second argument for a step back waiver states that "in order to be successful, there must be adequate room revenue" (i.e., presumably additional space on the 4th floor for more rooms or higher room rates). Is it the ARB's responsibility to worry about the financial success of this project and to take such issues into consideration when granting extra FAR and step back flexibility?

In earlier correspondence on January 7, 2020, Jenny Raitt noted in item 6 that "DPCD has not received a marketing study of similar hotels" as previously requested. In her January 21, 2020 letter in reply, Ms. O'Connor stated, "The petitioner will not be providing this information as it is proprietary and is not relevant to the relief requested." But, how can the ARB determine if a decision about the step back would or would not contribute to the project's success if it cannot know what the hotel's marketing and business plan is meant to achieve?

Both of these arguments seem to me to be completely irrelevant and specious. The Town Counsel's letter of May 13, 2020 clarifies that upper story step backs should start on the 4th floor in this particular case, and the ARB should not consider any flexibility on that issue.

Regarding the 5/14/20 Memo from Jenny Raitt on outstanding information still needed

Ms. Raitt itemizes many missing plans and documents based on her previous January 21, 2020 checklist, and we also look forward to seeing more details about these concerns, especially the need for more extensive traffic studies. In light of two recent bicycle accidents (one of them fatal) at the corner of Mass Ave. and Appleton St., extra scrutiny is required regarding traffic patterns in this section of the Mass Ave. corridor. Other committees, such as the Transportation Advisory Committee and the Bicycle Advisory Committee, are also looking into this difficult section of roadway, and all of their findings should be considered together as part of this special permit.

The Covid-19 pandemic has added further concern about the validity of the petitioner's forthcoming traffic study, since normal pedestrian and car activity in general, but especially traffic related to the Ottoson School, Children's Place and St. Athanasius Greek Church, has been curtailed for several months when presumably such studies would have been done. Input from all of these neighborhood institutions should be solicited as well.

Further questions/concerns

Parking – only 1 spot is designated for handicapped parking in the hotel parking area – is that sufficient for expected hotel usage, and does it meet town requirements?

Interior reconstruction in the former Nicola's Pizza shop at Clark St./Mass Ave. has started for conversion to a liquor store, so that future usage also needs to be factored into the analysis of traffic and parking in the area.

The probable loss of several large trees behind the DAV building is not addressed in Ms. Raitt's 5/14/20 memo, but has been raised in previous correspondence and hearings. This possibility continues to be a concern in terms of its impact on neighborhood character, and I would like an opinion from the Tree Warden or other relevant official as to regulations protecting mature trees in such a situation.

A related concern is the height and massing of the proposed structure, especially as viewed from residences on Peirce Street. As discussed at the hearing on May 18, a more complete and accurate set of architectural plans, elevations and other details need to be provided in order to gain a true sense of how this building will affect the neighborhood.

At the May 18 hearing, Carol MacDonald of 1182 Mass Ave. mentioned that this site was formerly a gas station, and that gas tanks might have created contamination on the site. I hope that is being investigated as well.

What recourse will neighbors have in years to come if this hotel project is built but creates even worse traffic or other problems for the area? This developer/landowner has a poor history of caretaking the 1211 Mass Ave. property. The town also has not been a good steward of the DAV property, which is now abandoned and overgrown with weeds.

I think we can all agree that some redevelopment of the two properties at 1207-1211 Mass Ave will be beneficial and is long overdue, but **this particular hotel/restaurant project as presented to date is too large for the site already**, and the developer is asking for even more space (bonus FAR, less step back).

There are so many outstanding concerns and incomplete information that it is difficult to know what to expect. I look forward to seeing the additional plans and traffic studies already requested by the ARB, and to further discussion at the July 6 public hearing.

Thank you for your consideration of these ongoing concerns.

Ann LeRoyer

From: Don Seltzer <timoneer@gmail.com>
Date: May 1, 2020 at 11:01:20 AM EDT
To: Erin Zwirko <EZwirko@town.arlington.ma.us>
Cc: Jenny Raitt <JRaitt@town.arlington.ma.us>
Subject: Visual for May 4 ARB meeting

CAUTION: This email originated from outside of the Town of Arlington's email system. Do not click links or open attachments unless you recognize the REAL sender (whose email address in the From: line in "< >" brackets) and you know the content is safe.

Erin,

I am attaching a pdf file that I would like to have displayed during Monday's ARB Zoom meeting. It relates to the upcoming hearing of the Lexington Hotel proposal for the following meeting.

With Monday's agenda very light, I wanted to present it to the Board well in advance, to permit the hotel architects time to respond and correct their materials before the May 18 hearing date.

I do not expect to be on the agenda, I simply want to present this material during the citizen's open forum.

Thank you,

Don Seltzer

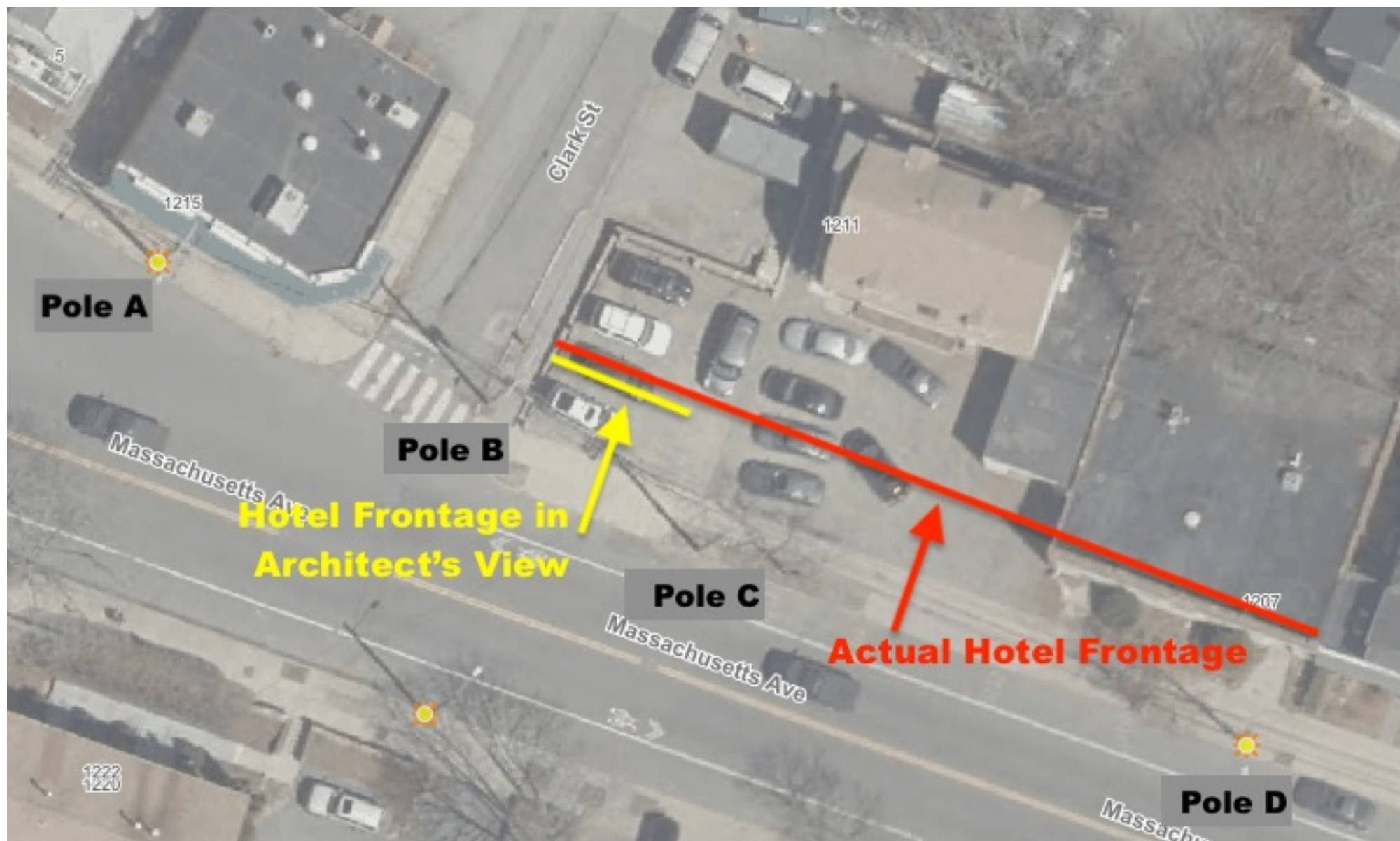
Hotel Lexington - Misleading Architectural Visualization



View Today







From: Barbara McCauley <jbmccauley@comcast.net>
Date: July 2, 2020 at 7:31:56 AM EDT
To: "jraitt@town.arlington.ma.us" <jraitt@town.arlington.ma.us>
Subject: Hotel Lexington

CAUTION: This email originated from outside of the Town of Arlington's email system. Do not click links or open attachments unless you recognize the REAL sender (whose email address in the From: line in "< >" brackets) and you know the content is safe.

Dear Ms. Raitt,

I hope I am not too late to submit comments to you on the issue of the proposed hotel/restaurant. I will admit that I had hoped that the downturn in the economy would lead the builder to give up the idea, but apparently that is not the case, as the hearing is still scheduled. I have attended all the hearings on this issue and will be present for this one as well.

My husband and I own a townhouse in the two-building Shaker-style condo complex at the corner of Mass Ave and Burton Street. Our 35 year old deaf son lives with us. When school is in session, many of the middle school students walk or bike past our home. I can see, from my kitchen window, that many of them ignore the crossing guards and instead just cross Mass Ave in the middle of the street. The recent bicycle accidents on this block have sadly illustrated the additional dangers of the intersection of Appleton Street and Mass Ave. There will be a dramatic increase in traffic on this block when the 140 units of the Mirak project (which I strongly support) are completed. It is troubling that the Lexington Hotel builder, having neglected to do a traffic study while school was in session, now proposes to draw on studies done in the past; one has to ask how meaningful those studies will be.

Other concerns:

The hotel will have only valet parking for guests, so the guests with cars will likely choose to have their cars retrieved from the garage in the morning and then park them on the street during the day, so they can easily come and go. Restaurant customers will also park on the street. Where will the customers of the dry cleaners and the mosaic studio and animal clinic and the beauty salon park? We already see commuters take the spots on Burton Street early in the morning and ride the bus into Cambridge and Boston for the day.

The builder of the hotel has promised that there will be no idling of buses in front of the hotel, as they wait to load guests going to Lexington, but what will they do in the heat of summer? Leave the engines and air conditioning off as the driver and passengers stand outside in the heat until it's time for the bus to leave?

It is hard to support the concept of a hotel that is apparently named to attract tourists who google "Lexington hotel" and will want to *leave* Arlington to tour Lexington. All the neighbors abutting our home share my concerns and attended all the hearings which were held before the pandemic. Many of them have lived in Arlington all their lives, but they are not all so zoom-proficient and I fear that you will interpret their absence from hearings now as indifference. It is troubling to think that such a big decision is being made when community participation is so challenging. I hope that when a final decision is made you will recall the community turnout and concerns voiced at that first meeting in Town Hall last year....

Thank you.

Sincerely,

Barbara McCauley

1184 Massachusetts Ave
Arlington 02476

June 23, 2020

Andrew Bunnell, Esq., Chairperson
Arlington Redevelopment Board
733 Massachusetts Avenue
Arlington, MA 02476

Re: 1207 - 1211 Massachusetts Avenue, Arlington, MA
Docket No. 3602

Dear Mr. Bunnell:

This letter shall confirm that, in the event the special permit is granted in the above-referenced matter, I will rent two (2) parking spaces on Lowell Street, to be utilized by employees of the proposed hotel.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Carter Knight', with a long horizontal line extending to the right.

Carter Knight
Davidson Management

June 23, 2020

Andrew Bunnell, Esq., Chairperson
Arlington Redevelopment Board
733 Massachusetts Avenue
Arlington, MA 02476

Re: 1207 - 1211 Massachusetts Avenue, Arlington, MA
Docket No. 3602

Dear Mr. Bunnell:

This letter shall confirm that, in the event the special permit is granted in the above-referenced matter, I will rent six (6) parking spaces at 24 Ryder Street, to be utilized by employees of the proposed mixed use development. The space would be available from afternoon until late at night.

Very truly yours,

Dante Muzzioli, Trustee
24 Ryder Street Realty Trust

{00082093 | }

From: Don Seltzer <timoneer@gmail.com>
To: Jenny Raitt <jraitt@town.arlington.ma.us>, Erin Zwirko <EZwirko@town.arlington.ma.us>
Date: Mon, 18 May 2020 09:45:16 -0400
Subject: Correspondence Docket 3602 - Table of Uses

CAUTION: This email originated from outside of the Town of Arlington's email system. Do not click links or open attachments unless you recognize the REAL sender (whose email address in the From: line in "<>" brackets) and you know the content is safe.

To the Redevelopment Board

In reviewing the latest submission of the applicant for 1207-1211 I noticed that a key argument is based upon the assumption that the principal use of the proposed project is not residential. There seems to be some confusion over the distinction between residential district and residential use. The attached table from the zoning bylaw clarifies that a hotel is defined as a residential use (by special permit) in a B4 district. This particular project does not meet the requirements of 5.3.6 for bonus provisions.

Don Seltzer

5.5.3. Use Regulations for Business Districts

Class of Use	B1	B2	B2A	B3	B4	B5
Residential						
Single-family detached dwelling	Y	Y	Y	Y	Y	Y
Two-family dwelling, duplex dwelling	Y	Y	Y	Y	Y	Y
Six or more single-family dwellings or six or more units in two-family dwellings or duplex dwellings on one or more contiguous lots	SP	SP	SP	SP	SP	SP
Three-family dwelling	SP	SP	SP	SP	SP	SP
Townhouse	SP	SP	DP	SP		SP
Apartment building		SP	SP	SP	SP	SP
Conversion to apartments, up to 18 units per acre, with no alteration to the exterior of the building	SP					
Single-room occupancy building	SP					SP
Group home	Y	Y	Y	Y	Y	Y
Hotel/Motel			SP	SP	SP	SP
Conversion of one or two-family dwelling to bed and breakfast	SP	SP	SP	SP	SP	SP
Assisted living residence				SP		
Dormitory (Note: permitted if use is for educational or religious purposes.)	Y	Y	Y	Y	Y	Y
Institutional, Educational						
Community center, youth club, adult education center, or similar facility operated by a non-profit institution (Note: permitted if use is for educational or religious purposes.)	SP	SP		SP		SP
Nonprofit, members-only private club or lodge	SP	SP	SP	SP	Y	SP
Non-exempt educational use, e.g., trade, driving, music, dancing school		Y	Y	Y	Y	Y
Library, museum, or art gallery open to the public and not conducted as a private gainful business. (Note: permitted if use is for educational or religious purposes.)	SP	SP	SP	SP		SP

Town of Arlington Zoning Bylaw

2020 JUL 21 P 1:59



TOWN OF ARLINGTON
REDEVELOPMENT BOARD

Application for Special Permit In Accordance with Environmental Design
Review Procedures (Section 3.4 of the Zoning Bylaw)

1. Property Address 473 Massachusetts Ave Arlington, MA 02476 Docket No. _____
 Name of Record Owner(s) Collins management Phone _____
 Address of Owner 10 Converse Pl# 3, Winchester, MA 01890
Street City, State, Zip
2. Name of Applicant(s) (if different than above) Gotu Hule
 Address 473 Massachusetts Ave Arlington, MA 02476 Phone _____
 Status Relative to Property (occupant, purchaser, etc.) Rent
3. Location of Property 473 Massachusetts Ave Arlington, MA 02476
Assessor's Block Plan, Block, Lot No.
4. Deed recorded in the Registry of deeds, Book 14650, Page 40;
 -or- registered in Land Registration Office, Cert. No. _____, in Book _____, Page _____
5. Present Use of Property (include # of dwelling units, if any) Restaurant
6. Proposed Use of Property (include # of dwelling units, if any) Restaurant
7. Permit applied for in accordance with 3.4
 the following Zoning Bylaw section(s) 6.2
section(s) title(s)
8. Please attach a statement that describes your project and provide any additional information that may aid the ARB in understanding the permits you request. Include any reasons that you feel you should be granted the requested permission.

(In the statement below, strike out the words that do not apply)
 The applicant states that Gotu Hule is the owner -or- occupant -or- purchaser under agreement of the property in Arlington located at 473 Massachusetts Ave Arlington, MA 02476 which is the subject of this application; and that unfavorable action -or- no unfavorable action has been taken by the Zoning Board of Appeals on a similar application regarding this property within the last two years. The applicant expressly agrees to comply with any and all conditions and qualifications imposed upon this permission, either by the Zoning Bylaw or by the Redevelopment Board, should the permit be granted.

Signature of Applicant(s)

473 Massachusetts Ave Arlington, MA 02476

Address

781-413-1531

Phone

TOWN OF ARLINGTON

Dimensional and Parking Information
for Application to
The Arlington Redevelopment Board

Docket No. _____

Property Location 473 Massachusetts Ave Arlington, MA 02476

Zoning District _____

Owner: Gotu Hule

Address: 473 Massachusetts Ave Arlington, MA

Present Use/Occupancy: No. of Dwelling Units: _____

Uses and their gross square feet: _____

Proposed Use/Occupancy: No. of Dwelling Units: _____

Uses and their gross square feet: _____

		Present Conditions	Proposed Conditions	Min. or Max. Required by Zoning for Proposed Use
Lot Size				min.
Frontage				min.
Floor Area Ratio				max.
Lot Coverage (%), where applicable				max.
Lot Area per Dwelling Unit (square feet)				min.
Front Yard Depth (feet)				min.
Side Yard Width (feet)	right side			min.
	left side			min.
Rear Yard Depth (feet)				min.
Height				min.
Stories				stories
Feet				feet
Open Space (% of G.F.A.)				min.
Landscaped (square feet)				(s.f.)
Usable (square feet)				(s.f.)
Parking Spaces (No.)				min.
Parking Area Setbacks (feet), where applicable				min.
Loading Spaces (No.)				min.
Type of Construction				
Distance to Nearest Building				min.

94 in

94" x 30" : 7.8' x 2.5'

: 19.5 sq feet

30.21 in
Meitrón
COCINA MEXICANA

264 in

94 in

69 in

36 in



Sign Information's

Sign Letters and Corner Design

Made of Aluminum Back Lit Letters Color

Black and Soft White Light

Sign Sign Box Made of Aluminum Mocha Tan 040

Supports 1" Sq Tubing Install 8 L Brackets

264 in

93.81 in



36 in

68.66 in

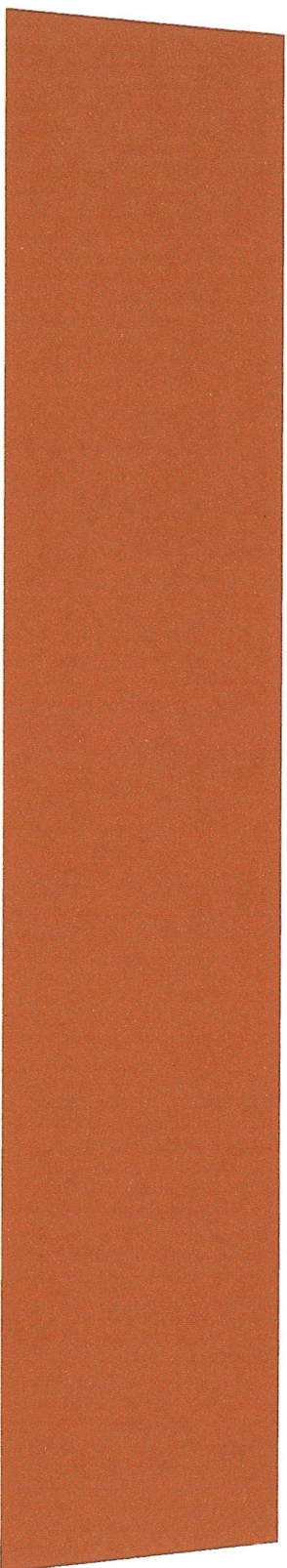
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Made of Aluminum Back Lit Letters Color
Black and Soft White Light

Sign Sign Box Made of Aluminum Mocha Tan 040
Supports 1" Sq Tubing Install 8 L Brackets

264.in



48.8 in

Awning Information's

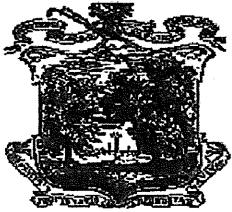
Awning Sunbrella Material Strech it on 1"
Sq Tubing Awning Color Tresco Clay

Before



After





TOWN OF ARLINGTON

51 GROVE STREET

ARLINGTON, MASSACHUSETTS 02476

APPLICATION FOR PERMIT TO BUILD

To the:
INSPECTOR OF BUILDINGS:

Date: 07/07 20 20

The undersigned hereby apply for a permit to { alter / build } according to the following specifications and the plans filed herewith:

1. Street and No. 475 Mass Ave Arlington, MA 02476 Lot No. _____
2. Owner Gotin Hule Address 475 Mass Ave Arlington
3. Architect _____ Address _____
4. Builder Falcon Graphics Address 1151 Mass Ave Arlington
5. Class of Construction _____ Material Aluminum
Zoning _____

DESCRIPTION OF PROPOSED CONSTRUCTION

Aluminum Panel (gold color) and 3D Lettering (Black color)
Awning Sunbrella Material stretch it on 1" sq Tubing - Sign and Awning
installed w/ L and Z Brackets

6. Size of Lot front _____ rear _____ depth _____ Area sq. ft. _____
7. Size of Building front _____ rear _____ depth _____ Area sq. ft. _____
8. Distance from Street _____
9. Distance from lot Lines side (left) _____ rear _____ side (right) _____
10. Number of Stories _____ Height in Feet _____
11. Foundation on Filled Land _____ Yes _____ No _____
12. Foundation Material _____ thickness _____ depth _____ mortar _____
13. Roof Truss Construction _____ Yes _____ No _____
14. Duplicate Plans _____ Plot Plan _____
15. Estimated Cost \$ 4,356.25

**CONSTRUCTION AND PLOT PLANS IN DUPLICATE MUST BE SUBMITTED TO
AND APPROVED BY THIS DEPARTMENT BEFORE A PERMIT WILL BE GRANTED**

The applicant shall locate proposed building with due regard to
lines, grades and sewer location obtained from the Town Engineer.

I hereby certify that the dimensions and other information on the plans are correct and that all applicable provisions of
Statutes, Regulations and By-Laws will be complied with. The above is subscribed to and executed by me under the
penalties of perjury in accordance with Section 1-A of Chapter 268, General Laws.

Tel No. 781-413-1531

Owner's Signature

Tel No. 617-306 7748

Builder's Signature

License No. _____

Home Improvement Contractor Reg. No. _____

FOR SECURITY PURPOSES, THE FACE OF THIS DOCUMENT CONTAINS A TWO-TONED COLORED BACKGROUND AND MICROPRINTING IN THE BORDER

DEEPNA, INC
473 MASSACHUSETTS AVE
ARLINGTON, MA
PH: 781 777 2839

BANK OF AMERICA
655 MASSACHUSETTS AVE
02476

2367
06/27/2020

PAY TO THE
ORDER OF Town of Arlington

\$ ****500.00**

Five hundred and 00/100 *****

DOLLARS

Town of Arlington



MEMO

Arlington - Sign permit

SECURITY FEATURES INCLUDED. DETAILS ON BACK

AUTHORIZED SIGNATURE

⑈002367⑈ ⑆011000138⑆ 004643869251⑈



1151R Massachusetts Avenue
Arlington, Ma - 02476
617-306-7748

BILL TO:

Acitron Cocina mexicana
Arlington, MA

INVOICE

TODAY DATE:
INVOICE DATE: 7/14/2020
INVOICE NO: 367

DESCRIPTION	ITEM	AMOUNT
Old Awning Take it down	1	\$ 1,500.00
New Sign Install	1	
New Awning Install	1	\$ 2,750.00
SUBTOTAL		\$ 4,250.00
Cost of Labor Remains 60% - Sales Tax Charged 40%	40%	\$ 1,700.00
SALES TAX RATE		6.25%
SALES TAX TOTAL		\$106.25
Paid By	TOTAL	\$ 4,356.25
THANK YOU FOR YOUR BUSINESS!		



2020 JUL 21 P 1:58



**TOWN OF ARLINGTON
REDEVELOPMENT BOARD**

Application for Special Permit In Accordance with Environmental Design
Review Procedures (Section 3.4 of the Zoning Bylaw)

1. Property Address 473 Massachusetts Ave Arlington, MA 02476 Docket No. _____
 Name of Record Owner(s) Collins management Phone _____
 Address of Owner 10 Converse Pl# 3, Winchester, MA 01890
Street City, State, Zip
2. Name of Applicant(s) (if different than above) Gotu Hule
 Address 473 Massachusetts Ave Arlington, MA 02476 Phone _____
 Status Relative to Property (occupant, purchaser, etc.) Rent
3. Location of Property 473 Massachusetts Ave Arlington, MA 02476
Assessor's Block Plan, Block, Lot No.
4. Deed recorded in the Registry of deeds, Book 14650, Page 40 ;
 -or- registered in Land Registration Office, Cert. No. _____, in Book _____, Page _____.
5. Present Use of Property (include # of dwelling units, if any) Restaurant
6. Proposed Use of Property (include # of dwelling units, if any) Restaurant
7. Permit applied for in accordance with 3.4
 the following Zoning Bylaw section(s) 6.2
- section(s) title(s)
8. Please attach a statement that describes your project and provide any additional information that may aid the ARB in understanding the permits you request. Include any reasons that you feel you should be granted the requested permission.

(In the statement below, strike out the words that do not apply)
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Signature of Applicant(s)

473 Massachusetts Ave Arlington, MA 02476

Address

781-413-1531

Phone

TOWN OF ARLINGTON

Dimensional and Parking Information
for Application to
The Arlington Redevelopment Board

Docket No. _____

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Zoning District _____

Owner: Gotu Hule

Address: 473 Massachusetts Ave Arlington, MA

Present Use/Occupancy: No. of Dwelling Units: _____

Uses and their gross square feet: _____

Proposed Use/Occupancy: No. of Dwelling Units: _____

Uses and their gross square feet: _____

	Present Conditions	Proposed Conditions	Min. or Max. Required by Zoning for Proposed Use
Lot Size			min.
Frontage			min.
Floor Area Ratio			max.
Lot Coverage (%), where applicable			max.
Lot Area per Dwelling Unit (square feet)			min.
Front Yard Depth (feet)			min.
Side Yard Width (feet) right side			min.
left side			min.
Rear Yard Depth (feet)			min.
Height			min.
Stories			stories
Feet			feet
Open Space (% of G.F.A.)			min.
Landscaped (square feet)			(s.f.)
Usable (square feet)			(s.f.)
Parking Spaces (No.)			min.
Parking Area Setbacks (feet), where applicable			min.
Loading Spaces (No.)			min.
Type of Construction			
Distance to Nearest Building			min.

94 in

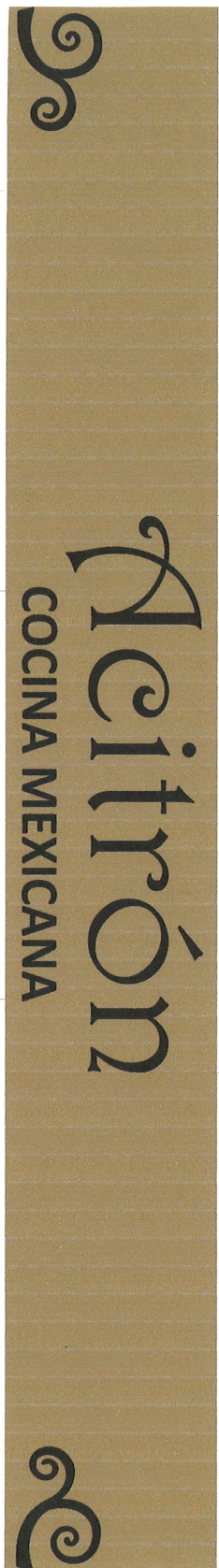
30.21 in
Meitrón
COCINA MEXICANA

94" x 30" : 7.8' x 2.5'
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Sign Information's

Sign Letters and Corner Design

Made of Aluminum Back Lit Letters Color

Black and Soft White Light

Sign Sign Box Made of Aluminum Mocha Tan 040

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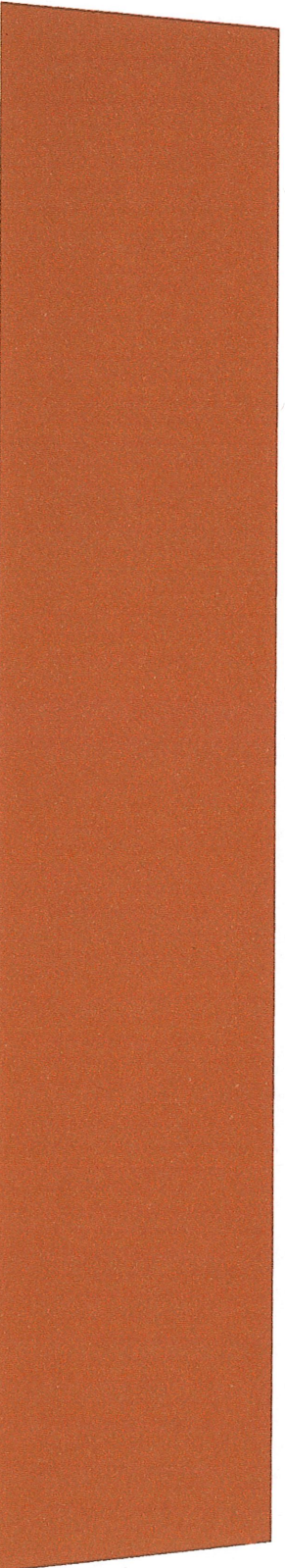
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264.in



48.8 in

Awning Information's

Awning Sunbrella Material Strech it on 1"

Sq Tubing Awning Color Tresco Clay

Before



After



FOR SECURITY PURPOSES, THE FACE OF THIS DOCUMENT CONTAINS A TWO-TONED COLORED BACKGROUND AND MICROPRINTING IN THE BORDER

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ARLINGTON, MA
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BANK OF AMERICA
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02476

2367

06/27/2020

PAY TO THE
ORDER OF Town of Arlington

\$ **500.00

Five hundred and 00/100 *****

DOLLARS

Town of Arlington



MEMO

Arlington - Sign permit

SECURITY FEATURES INCLUDED. DETAILS ON BACK

AUTHORIZED SIGNATURE

⑈002367⑈ ⑆011000138⑆ 00464386925⑈



1151R Massachusetts Avenue
Arlington, Ma - 02476
617-306-7748

BILL TO:

Acitron Cocina mexicana
Arlington, MA

INVOICE

TODAY DATE:
INVOICE DATE: 7/14/2020
INVOICE NO: 367

DESCRIPTION	ITEM	AMOUNT
Old Awning Take it down	1	\$ 1,500.00
New Sign Install	1	
New Awning Install	1	\$ 2,750.00
SUBTOTAL		\$ 4,250.00
Cost of Labor Remains 60% - Sales Tax Charged 40%	40%	\$ 1,700.00
SALES TAX RATE		6.25%
SALES TAX TOTAL		\$106.25
Paid By	TOTAL	\$ 4,356.25
THANK YOU FOR YOUR BUSINESS!		





Town of Arlington, Massachusetts
Department of Planning & Community Development
730 Massachusetts Avenue, Arlington, Massachusetts 02476

Public Hearing Memorandum

The purpose of this memorandum is to provide the Arlington Redevelopment Board and public with technical information and a planning analysis to assist with the regulatory decision-making process.

To: Arlington Redevelopment Board

From: Jennifer Raitt, Secretary Ex-Officio

Subject: Environmental Design Review, 473 Massachusetts Avenue, Arlington, MA
Docket #3631

Date: August 12, 2020

I. Docket Summary

This is an application by Gote Hule for Acitron Cocina Mexicana, at 473 Massachusetts Avenue, Arlington, MA, 02476, for Special Permit Docket #3631 in accordance with the provisions of MGL Chapter 40A § 11, and the Town of Arlington Zoning Bylaw Section 3.4, Environmental Design Review. The applicant seeks approval of signage that exceeds the size allowed for a wall sign in the B3 Village Business District. The opening of the Special Permit is to allow the Board to review and approve the signage under Section 6.2, Signs.

Materials submitted for consideration of this application include:

- Application for EDR Special Permit,
- Dimensional information of the proposed signage, and
- Renderings of signage.

II. Application of Special Permit Criteria (Arlington Zoning Bylaw, Section 3.3)

1. Section 3.3.3.A.

The use requested is listed as a Special Permit in the use regulations for the applicable district or is so designated elsewhere in this Bylaw.

A restaurant is allowed in the B3 Village Business District Zoning District. The Board can find that this condition is met.

2. Section 3.3.3.B.

The requested use is essential or desirable to the public convenience or welfare.

A restaurant has operated in this location for many years, and is appropriately located in a major commercial district. The Board can find that this condition is met.

3. Section 3.3.3.C.

The requested use will not create undue traffic congestion or unduly impair pedestrian safety.

There are no exterior alterations proposed other than signage. The Board can find that this condition is met.

4. Section 3.3.3.D.

The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety, or the general welfare.

A restaurant has operated in this location for years without overloading any public utilities. The Board can find that this condition is met.

5. Section 3.3.3.E.

Any special regulations for the use as may be provided in the Bylaw are fulfilled.

No special regulations are applicable to the proposal. The Board can find that this condition is met.

6. Section 3.3.3.F.

The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health or welfare.

The use does not impair the integrity or character of the neighborhood. The Board can find that this condition is met.

7. Section 3.3.3.G.

The requested use will not, by its addition to a neighborhood, cause an excess of the use that could be detrimental to the character of said neighborhood.

The use will not be in excess or detrimental to the character of the neighborhood. The Board can find that this condition is met.

III. Environmental Design Review Standards (Arlington Zoning Bylaw, Section 3.4)

1. EDR-1 Preservation of Landscape

The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.

There are no changes to the landscape as there are no proposed exterior alterations. The Board can find that this condition is met.

2. EDR-2 Relation of the Building to the Environment

Proposed development shall be related harmoniously to the terrain and to the use, scale, and architecture of the existing buildings in the vicinity that have functional or visible relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing so as to reduce the effect of shadows on the abutting property in an R0, R1 or R2 district or on public open space.

There are no changes to the exterior of the building other than the new signage. The Board can find that this condition is met.

3. EDR-3 Open Space

All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing by the site or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility and facilitate maintenance.

There are no changes to open space. The Board can find that this condition is met.

4. EDR-4 Circulation

With respect to vehicular and pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 6.1.12 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.

The existing circulation does not change. The Board can find that this condition is met.

5. EDR-5 Surface Water Drainage

Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm

drainage system. Available Best Management Practices for the site should be employed, and include site planning to minimize impervious surface and reduce clearing and re-grading. Best Management Practices may include erosion control and stormwater treatment by means of swales, filters, plantings, roof gardens, native vegetation, and leaching catch basins. Stormwater should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected in intervals so that it will not obstruct the flow of vehicular or pedestrian traffic and will not create puddles in the paved areas.

In accordance with Section 3.3.4., the Board may require from any applicant, after consultation with the Director of Public Works, security satisfactory to the Board to insure the maintenance of all stormwater facilities such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the applicant fails to do.

The Board may adjust in its sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for any future maintenance needs.

There will be no changes to the exterior of the building or surface water run-off as a result of this proposal. The Board can find that this condition is met.

6. EDR-6 Utilities Service

Electric, telephone, cable TV, and other such lines of equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.

There will be no changes to the utility service as a result of this proposal. The Board can find that this condition is met.

7. EDR-7 Advertising Features

The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties.

The current signage at the restaurant is an awning sign. The proposal is to install a wall sign above a new awning installation. Individual letters and corner decorations, all black, will be mounted to a tan-colored backer panel. The wall sign is 66 square feet. For a wall sign in this location, the maximum size allowed is 40 square feet. Please note that since the letters and decoration are applied to a backer panel, the entire sign counts toward the sign area.

A new clay-colored awning will be installed below the wall sign. There is no copy on the proposed awning.

Currently, the sign is illuminated by external lighting. The proposed individual letters will have back-lit illumination. The applicant has not specified details on illumination and if the existing external lighting will remain.

New L- and Z-brackets will be used to install the sign and awning.

8. EDR-8 Special Features

Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.

No changes are proposed. The Board can find that this condition is met.

9. EDR-9 Safety

With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.

No changes are proposed. The Board can find that this condition is met.

10. EDR-10 Heritage

With respect to Arlington's heritage, removal or disruption of historic, traditional or significant uses, structures or architectural elements shall be minimized insofar as practical whether these exist on the site or on adjacent properties.

The building containing 473 Massachusetts Avenue is listed on the *Inventory of Historically or Architecturally Significant Properties in the Town of Arlington* and is under the jurisdiction of the Arlington Historical Commission. The Historical Commission has not yet scheduled a meeting, but will review the signage.

11. EDR-11 Microclimate

With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard surface, ground coverage or the installation of machinery which emits heat, vapor or fumes shall endeavor to minimize insofar as practicable, any adverse impacts on light, air and water resources or on noise and temperature levels of the immediate environment.

No changes are proposed. The Board can find that this condition is met.

12. EDR-12 Sustainable Building and Site Design

Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project.

No changes are proposed. The Board can find that this condition is met.

IV. Conditions

1. Any substantial or material deviation during construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board.
2. The Board maintains continuing jurisdiction over this permit and may, after a duly advertised public hearing, attach other conditions or modify these conditions as it deems appropriate in order to protect the public interest and welfare.



Town of Arlington, Massachusetts

Discussion: Comprehensive Permit Application at 1165R Massachusetts Avenue

Summary:

8:00 p.m. Board members will discuss and may vote to provide comments to Select Board for inclusion in Town comment letter to MassHousing.

ATTACHMENTS:

Type	File Name	Description
Reference Material	Agenda_Item_2a_1165R_Mass_Avenue_MA_Comprehensive_Permit_Site_Approval_Application_to_MassHousing_070120.pdf	1165R Mass Ave MassHousing Application
Reference Material	Agenda_Item_2b_1165R_Mass_Ave_Traffic_Impact_Report_(1).pdf	1165R Mass Ave Traffic Impact Report 07062020
Reference Material	agenda_Item_2c_1165R_Mass_Ave_Traffic_Impact_Report_Appendix_(2).pdf	1165R Mass Ave Traffic Impact Report Appendix 07062020
Reference Material	Agenda_Item_2d_town_comment_extension-1165R_Mass._Ave.pdf	1165R Mass Ave Town Comment Extension received 07282020

KRATTENMAKER O'CONNOR & INGBER P.C.

ATTORNEYS AT LAW

ONE MCKINLEY SQUARE
BOSTON, MASSACHUSETTS 02109
TELEPHONE (617) 523-1010
FAX (617) 523-1009

July 1, 2020

CHARLES G. KRATTENMAKER, JR.
MARY WINSTANLEY O'CONNOR
KENNETH INGBER

OF COUNSEL: RAYMOND SAYEG

VIA EMAIL

Adam Chapdelaine, Town Manager
Town of Arlington
730 Massachusetts Avenue
Arlington, MA 02476

John V. Hurd, Chairperson
Arlington Select Board
730 Massachusetts Avenue
Arlington, MA 02476

Re: 1165R Massachusetts Avenue, Arlington, MA Comprehensive Permit Site
Approval Application

Dear Town Manager Chapdelaine and Chairperson Hurd:

I enclose on behalf of my client, 1165R Mass MA Property, LLC, a copy of the Comprehensive Permit Application that was filed with Mass Housing.

Please do not hesitate to contact me with any questions. I thank you.

Very truly yours,


Mary Winstanley O'Connor

MWO/ccg
Enclosure
6926

cc: Jennifer Raitt, Director, Planning and Community Development (via email)



Comprehensive Permit Site Approval Application Rental

www.masshousing.com | www.masshousingrental.com

Comprehensive Permit Site Approval Application/Rental

Attached is the Massachusetts Housing Finance Agency ("MassHousing") application form for Project Eligibility/Site Approval ("Site Approval") under the state's comprehensive permit statute (M.G.L. c. 40B, Sections 20-23 enacted as Chapter 774 of the Acts of 1969) known as "Chapter 40B". Developers seeking a comprehensive permit to construct affordable housing under Chapter 40B and intending to use a MassHousing financing program or financing through the New England Fund ("NEF") program must receive Site Approval from MassHousing. This approval (also referred to as "project eligibility approval") is a required component of any comprehensive permit application to be submitted to the local Zoning Board of Appeals of the municipality in which the development is to be located.

As part of its review of your application, MassHousing will conduct an inspection of the site and will solicit comments from the relevant municipality. MassHousing will consider any relevant concerns that the municipality might have about the proposed project or the developer. The applicant is encouraged, therefore, to make contact with the municipality prior to submitting the Site Approval application in order to ensure that the applicant understands any concerns that the municipality may be likely to raise regarding the proposed development.

In order for a project to receive Site Approval, MassHousing must determine that (i) the applicant has sufficient legal control of the site, (ii) the applicant is a public agency, non-profit organization or limited dividend organization, and (iii) the applicant and the project are generally eligible under the requirements of the MassHousing program selected by the applicant, subject to final eligibility review and approval. Furthermore, MassHousing must determine that the site of the proposed project is generally appropriate for residential development (taking into consideration municipal actions previously taken to meet affordable housing needs) and that the conceptual project design is generally appropriate for the site. In order for MassHousing to be able to make these findings (required by 760 CMR 56.04 (4)), it is important that you answer all questions in the application and include all required attachments.

Please note that MassHousing requires that all applicants meet with a member of our Planning and Programs Department staff before submitting their application. Applications for any projects that have not been the subject of a required pre-application meeting will not be accepted or processed.

Upon completion of its analysis, MassHousing will either issue a Site Approval Letter that approves, conditionally approves or denies the application. If the application is approved, the applicant should apply to the Zoning Board of Appeals within two years from the date of the Site Approval Letter (unless MassHousing extends such term in writing).

Please note that Site Approval from MassHousing does not constitute a loan commitment by MassHousing or any other financing program. All potential MassHousing financing is subject to further review and underwriting by MassHousing's Rental Lending Department.

Please be sure you have familiarized yourself with all of the applicable requirements set forth in the Chapter 40B regulations and guidelines, which can be found at

<https://www.mass.gov/files/documents/2017/10/17/760cmr56.pdf>
www.mass.gov/hed/docs/dhcd/legal/comprehensivepermitguidelines.pdf.

Instructions for completing the Site Approval Application are included in the application form which is attached. The completed application form and all additional documentation should be sent, after your pre-application meeting has been held, to:

**Manager of Planning Programs
One Beacon Street, Boston, MA 02108**

We look forward to working with you on your proposed development. Please contact Jessica Malcolm at 617-854-1201 or jmalcolm@masshousing.com to discuss scheduling your pre-application meeting or if there is any assistance that we can provide in the meantime to make your application process a smooth and efficient one.

Our Commitment to You

MassHousing recognizes that applicants seek some measure of predictability regarding the timeframe for our processing of their applications. Our staff will endeavor to adhere to the following schedule for reviewing applications for site approval:

Within one week of receipt of your application (provided that you have attended a required pre-application meeting) a member of our staff will notify you of any of the items listed on the checklist at the end of the application form that were missing from your application package. Please note that our acknowledgement of receipt of an item does not indicate that any substantive review has yet taken place.

If your application package is missing any of the items indicated on the checklist by an asterisk, we will not be able to continue processing your application until such items are received.

If we have received the information which is crucial to the commencement of our review process, we will proceed to (i) give the municipality a period of thirty (30) days in which to submit comments relating to your proposal, (ii) schedule and conduct a site visit, and (iii) solicit bids for and commission and review an "as is" appraisal of your site.

If during our review of your application package we determine that additional information or clarification is needed, we will notify you as soon as possible. Depending on when we receive such additional information, this may affect the amount of time required for MassHousing to complete the site approval process.

Assuming that your application package was complete and that you respond in a timely manner to requests for additional information or clarification, we would expect to issue or deny your site approval within 90 days of our receipt of your application package.



**Application for Chapter 40B Project Eligibility / Site Approval
for MassHousing-Financed and New England Fund ("NEF") Rental Projects**

Section 1: GENERAL INFORMATION

Name of Proposed Project: 1165R Massachusetts Avenue

Municipality: Arlington

County: Middlesex

Address of Site: 1165R Massachusetts Avenue

Cross Street: Ryder Street (private way) & Forest Street (public way)

Zip Code: 02476

Tax Parcel I.D. Number(s): #057.0-0002-0010.B. Map 57, Block 2 Lot 10B N/F Lands of Arlington Center Garage and Service Corpora

Name of Proposed Development Entity 1165R Mass MA Property

(typically a single purpose entity):

Entity Type: Limited Dividend Organization

** If the Proposed Development Entity is a Non-Profit, please contact MassHousing regarding additional documentation that must be submitted.*

Has this entity already been formed?

Yes

State Formed: Delaware

Name of Applicant: 1165R Mass MA Property

(typically the Proposed Development Entity or its controlling entity or individual)

Applicant's Web Address:

Does the applicant have a related party relationship with any other member of the development team? Yes

If yes, please explain:

The applicant is a Joint Venture entity of Mirak Mill LLC (an affiliate of the land owner and affiliate of the JV investor) and 1165R Mass MA Partners LLC (an affiliate of Spaulding & Slye Investments, the Developer and JV Investor).

Primary Contact Information:

Contact Name: Daniel St. Clair, Project Executive, Spaulding **Relationship to Applicant:**

Company Name: 1165R Mass MA Property LLC

Address: One Post Office Square, Floor 26

Municipality: Boston

State: Massachusetts

Zip: 02109

Phone: (617) 531-4244

Cell Phone: (617) 721-4470

Email: daniel.stclair@ssinvests.com

Secondary Contact Information:

Contact Name: Julia Mirak Kew	Relationship to Applicant:	
Company Name: 1165R Mass MA Property LLC		
Address: 438 Massachusetts Avenue, Suite 127		
Municipality: Arlington	State: Massachusetts	Zip: 02474
Phone: (781) 641-6536	Cell Phone:	
Email: julia@mirakproperties.com		

Additional Contact Information:

Contact Name:	Relationship to Applicant:	
Company Name:		
Address:		
Municipality:	State:	Zip:
Phone:	Cell Phone:	
Email:		

Anticipated Construction Financing: NEF
If NEF, Name of Bank: Rockland Trust Bank

Anticipated Permanent Financing: NEF
If NEF, Name of Bank: Rockland Trust Bank

Age Restriction: None

Brief Project Description:

The proposed development, located at 1165R Massachusetts Avenue, Arlington, is a proposed 130-unit multi-family residential rental project. The site is approximately 2-acres and is currently Zoned (I), Industrial Use. The Developers intend to pursue this project as a friendly 40B and are proposing to reuse two existing historic buildings and build two new buildings with garage parking. The site itself will be transformed from a mostly paved, industrial use to an inviting destination for residents and the public, featuring a walkway along the historic Mill Brook Conduit. The Town of Arlington has studied this site and the neighboring industrial sites extensively and hopes that the 1165R development will become the first in a series of underutilized sites to be revitalized in accordance with the goals of the Town's Master Plan and Housing Production Plan.

One of the historic buildings on the Property was previously rehabilitated into a co-working space called "Workbar". The Workbar building is not part of the project and the building and surrounding land will be subdivided from the Project Site pursuant to an "Approval Not Required" plan under the local bylaws and will receive a "finding", separate from the Comprehensive Permit for the Project, from the Zoning Board of Appeals pursuant to MGL ch. 40, sec 6. A copy of the subdivision plan is attached as Exhibit 4.1

Existing geothermal wells that serve the Workbar building will be maintained on the 1165 R parcel.

**Application for Chapter 40B Project Eligibility / Site Approval
for MassHousing-Financed and New England Fund ("NEF") Rental Projects**

Section 2: EXISTING CONDITIONS / SITE INFORMATION

In order to issue Site Approval, MassHousing must find (as required by 760 CMR 56.04 (4)) that the site is generally appropriate for residential development.

Buildable Area Calculations (Acres)

Total Site Area:	2.05
Wetland Area (per MA DEP):	0.07
Flood Hazard Area (per FEMA):	0.19
Endangered Species Habitat (per MESA):	0.00
Conservation / Article 97 Land:	0.00
Protected Agricultural Land (i.e. EO 193):	0.00
Other Non-Buildable:	0.00
Total Non-Buildable Area:	0.26
Total Buildable Area:	1.79

Current use of the site and prior use if known:

Current use is Office/Light Industrial. Former use was that of a Piano Case Factory and an Architectural Millwork Factory.

Is the site located entirely within one municipality? Yes

If not, in what other municipality is the site located? N/A

How much land is in each municipality? N/A

Additional Site Addresses:

Current zoning classification and principal permitted uses:

I (Industrial)

Previous Development Efforts

Please list any previous applications pertaining to construction on or development of the site, including (i) type of application (comprehensive permit, subdivision, special permit, etc.); (ii) application filing date; (iii) date of denial, approval or withdrawal. Also indicate the current Applicant's role, if any, in the previous applications.

Note that, pursuant to 760 CMR 56.03 (1), a decision of a Zoning Board of Appeals to deny a Comprehensive Permit, or (if the Statutory Minima defined at 760 CMR 56.03 (3) (b or c) have been satisfied) grant a Comprehensive Permit with conditions, shall be upheld if a related application has previously been received, as set forth in 760 CMR 56.03 (7).

N/A

To the best of your knowledge, has this site ever been rejected for project eligibility/site approval by another subsidizing agency or authority? No

If Rejected, Please Explain:

N/A

Existing Utilities and Infrastructure	Yes/No	Description
Wastewater- private wastewater treatment	No	
Wastewater - public sewer	Yes	Sewer main runs east/west across the site to a manhole in Ryder Street
Storm Sewer	Yes	Storm sewer lines run north/south on the site and connect to the Mill Brook Cor
Water-public water	Yes	Water main runs north/south on the site. Main connection point is in Massachus
Water-private well	No	
Natural Gas	No	
Electricity	Yes	Overhead power from Massachusetts Avenue
Roadway Access to Site	Yes	From Mass Ave, Ryder Street via easement from Quinn Road.
Sidewalk Access to Site	Yes	Ryder and Forest Streets
Other	Yes	Existing solar arrays on roofs of existing structures - investigating reuse/replace

Describe Surrounding Land Uses:

Surrounding land uses consist of Business and Industrial. Direct Abutters include Offices, a car dealership, landscaping company, Town of Arlington Land, and the Minuteman Bike Trail (formerly part of the Mass Bay Transit Authority train system (indicated above as "Other")).

Surrounding Land Use/Amenities	Distance from Site	Available by Public Transportation?
Shopping Facilities	1.10	Yes
Schools	0.75	Yes
Government Offices	1.10	Yes
Multi-Family Housing	0.08	Yes
Public Safety Facilities	1.20	Yes

Office/Industrial Uses	0.05	Yes
Conservation Land	0.00	N/A
Recreational Facilities	1.00	Yes
Houses of Worship	0.20	Yes
Other	0.20	Yes

Public transportation near the Site, including type of transportation and distance from site:

MBTA Bus No. 67: Connecting Turkey Hill to Alewife Station (Red Line).
 MBTA Bus No. 77: Connecting Arlington Heights to Harvard Station (Red Line).
 MBTA Bus No. 79: Connecting Arlington Heights to Alewife Station (Red Line).

Site Characteristics and Development Constraints

Are there any easements, rights of way or other restrictions of record affecting the development of the site?	Yes
Is there any evidence of hazardous, flammable or explosive material on the site?	Yes
Is the site, or any portion thereof, located within a designated flood hazard area?	Yes
Does the site include areas designated by Natural Heritage as endangered species habitat?	No
Are there documented state-designated wetlands on the site?	No
Are there documented vernal pools on the site?	No
Is the site within a local or state Historic District or listed on the National Register or Historic Places?	No
Has the site or any building(s) on the site been designated as a local, state or national landmark?	Yes
Are there existing buildings and structures on site?	Yes
Does the site include documented archeological resources?	No
Does the site include any known significant areas of ledge or steep slopes?	No

Application for Chapter 40B Project Eligibility / Site Approval
for MassHousing-Financed and New England Fund ("NEF") Rental Projects

Section 3: PROJECT INFORMATION

In order to issue Site Approval, MassHousing must find (as required by 760 CMR 56.04 (4)) that the proposed project appears generally eligible under the requirements of the housing subsidy program and that the conceptual project design is generally appropriate for the site.

Construction Type: New Construction and Rehab

Total Dwelling Units:	130	Total Number of Affordable Units:	33
Number of Market Units:	97	Number of AMI 50% Affordable Units:	0
		Number of AMI 80% Affordable Units:	0

Unit Information:

Unit Type	Bedrooms	Baths	# Of Units	Unit Sq. Ft.	Rent	Utilities
Market	Studio	1 Bath	23	523	\$2,215	\$0
Market	1 Bedroom	1 Bath	41	755	\$2,650	\$0
Market	2 Bedroom	2 Baths	23	1,080	\$3,405	\$0
Market	3 Bedroom	2 Baths	10	1,393	\$4,075	\$0
at 80% AMI	Studio	1 Bath	8	523	\$1,487	\$198
at 80% AMI	1 Bedroom	1 Bath	14	755	\$1,543	\$262
at 80% AMI	2 Bedroom	2 Baths	8	1,080	\$1,824	\$342
at 80% AMI	3 Bedroom	2 Baths	3	1,393	\$2,073	\$429

Utility Allowance Assumptions (utilities to be paid by tenants):

Heating/Cooking/Hot Water (All Electric).
Electricity, Water, and Sewer.

Percentage of Units with 3 or More Bedrooms: 10.00

* Note that the January 17, 2014 Interagency Agreement Regarding Housing Opportunities for Families with Children requires that at least 10% of the units in the Project must have three (3) or more bedrooms. Evidence of compliance with this requirement must be provided at Final Approval.

Handicapped Accessible Units - Total:	7	Market Rate:	5	Affordable:	2
Gross Density (units per acre):	63.4146	Net Density (units per buildableacre):	72.6257		

Building Information:

Building Type	Building Style	Construction Type	Stories	Height	GFA	Number Bldg
Residential	Multi-family	Rehabilitation	4	44	19,392	1
Residential	Multi-family	Construction	5	44	20,507	1
Residential	Multi-family	Construction	6	68	98,632	1
Non-Residential	Other	Rehabilitation	1	20	1,850	1

Will all features and amenities available to market unit residents also be available to affordable unit residents?

Yes

If not, explain the differences:

There will be a separate fee for parking.

Parking

Total Parking Spaces Provided: 135

Ratio of Parking Spaces to Housing Units: 1.04

Lot Coverage

Buildings: 41%

Parking and Paved Areas: 28%

Usable Open Space: 9%

Unusable Open Space: 22%

Lot Coverage: 69%

Does project fit definition of "Large Project" (as defined in 760 CMR 56.03 (6))?

No

Application for Chapter 40B Project Eligibility / Site Approval
for MassHousing-Financed and New England Fund ("NEF") Rental Projects

Section 4: SITE CONTROL

Grantor/Seller: N/A

Grantee/Buyer: 1165R Mass MA Property LLC

Grantee/Buyer Type: Applicant

If Other, Explain:

Are the Parties Related? Yes The applicant is a Joint Venture entity of Mirak Mill LLC (an affiliate c

For Deeds or Ground Leases:

Date(s) of Deed(s) or Ground Leases(s):

Purchase Price: \$0

For Purchase and Sales Agreements or Option Agreements:

Date of Agreement:

Expiration Date:

Date of Extension (if extension granted):

New Expiration Date (if extension granted):

Purchase Price: \$0

Will any easements or rights of way over other properties be required in order to develop the site as proposed? No

If Yes, Current Status of Easement: Owned by Development Entity

Date(s) of Easements(s):

For Easements:

Date of Agreement:

Purchase Price: \$0

For Easement Purchase and Sales Agreements or Easement Option Agreements:

Expiration Date:

Date of Extension (if extension granted):

New Expiration Date (if extension granted)

Purchase Price: \$0

**Application for Chapter 40B Project Eligibility / Site Approval
for MassHousing-Financed and New England Fund ("NEF") Rental Projects**

Section 5: FINANCIAL INFORMATION

In order to issue Site Approval, MassHousing must find (as required by 760 CMR 56.04 (4)) that an initial pro forma has been reviewed and that the Proposed Project appears financially feasible and consistent with the Chapter 40B Guidelines, and that the Proposed Project is fundable under the applicable program.

Initial Capital Budget

Sources

Description	Source	Budgeted
Private Equity	Owner's Cash Equity	\$13,936,500
Private Equity	Tax Credit Equity	\$0
Private Equity	Developer Fee Contributed or Loaned	\$0
Private Equity	Developer Overhead Contributed or Loaned	\$300,000
Other Private Equity	Land Contributed or Loaned	\$3,000,000
Public/Soft Debt		\$0
Subordinate Debt		\$0
Permanent Debt	Rockland Trust Bank	\$33,396,500
Permanent Debt		\$0
Construction Debt	<i>for informational purposes only, not included in Sources T</i>	\$0
Additional Source		\$0
Additional Source		\$0
Total Sources		\$50,633,000

Pre-Permit Land Value

Item	Budgeted
As-Is Market Value*:	3,000,000.00
Reasonable Carrying Costs:	\$0
Total Pre-Permit Land Value:	3,000,000.00

** As-Is market value to be determined by a MassHousing commissioned appraisal*

Uses (Costs)

Item	Budgeted
Acquisition Cost (Actual):	
Actual Acquisition Cost: Land	\$3,000,000
Actual Acquisition Cost: Buildings	\$0
Reasonable Carrying Costs	\$0
Subtotal - Acquisition Costs	\$3,000,000
Construction Costs-Building Structural Costs (Hard Costs):	
Building Structure Costs	\$30,114,500
Hard Cost Contingency	\$1,430,000
Subtotal - Building Structural Costs (Hard Costs)	\$31,544,500
Construction Costs-Site Work (Hard Costs):	
Earth Work	\$882,500
Utilities: On-Site	\$321,500
Utilities: Off-Site	\$0
Roads and Walks	\$513,500
Site Improvement	\$62,000
Lawns and Plantings	\$107,500
Geotechnical Condition	\$0
Environmental Remediation	\$203,000
Demolition	\$591,000
Unusual Site Conditions/Other Site Work	\$1,212,000
Subtotal - Site Work (Hard Costs)	\$3,893,000
Construction Costs-General Conditions, Builders Overhead and Profit (Hard Costs):	
General Conditions	\$1,883,500
Builder's Overhead	\$554,500
Builder's Profit	\$580,000
Subtotal - General Conditions, Builder's Overhead & Profit	\$3,018,000
General Development Costs (Soft Costs):	
Appraisal and Marketing Study <i>(not 40B "As Is" Appraisal)</i>	\$30,000
Marketing and Initial Rent Up <i>(include model units if any)</i>	\$159,000
Real Estate Taxes <i>(during construction)</i>	\$81,000
Utility Usage <i>(during construction)</i>	\$0
Insurance <i>(during construction)</i>	\$289,000
Security <i>(during construction)</i>	\$0
Inspecting Engineer <i>(during construction)</i>	\$45,000
Construction Loan Interest	\$1,817,500
Fees to Construction Lender:	\$537,500
Fees to Permanent Lender:	\$0
Fees to Other Lenders:	\$25,000

General Development Costs (Soft Costs) - continued

Item	Budgeted
Architecture / Engineering	\$1,450,000
Survey, Permits, etc.	\$120,500
Clerk of the Works	\$0
Construction Manager	\$0
Bond Premiums	\$0
Environmental Engineer	\$168,000
Legal	\$623,000
Title (including title insurance) and Recording	\$53,000
Accounting and Cost Certification (incl. 40B)	\$20,000
Relocation	\$0
40B Site Approval Processing Fee	\$2,500
40B Technical Assistance / Mediation Fee	\$9,000
40B Land Appraisal Cost (as-is value)	\$6,000
40B Final Approval Processing Fee	\$29,700
40B Subsidizing Agency Cost Certification Examination Fee	\$0
40B Monitoring Agent Fee	\$0
MIP	\$0
Credit Enhancement	\$0
Letter of Credit Fees	\$2,500
Tax Credit Allocation Fee	\$0
Other Financing Fees	\$0
Development Consultant	\$35,500
Other Consultant: FF&E	\$508,300
Other Consultant: Affordable Lottery Expense	\$90,000
Syndication Costs	\$0
Soft Cost Contingency	\$318,000
Other Development Costs:	\$257,500
Subtotal - General Development Costs (Soft Costs)	\$6,677,500
Developer Fee and Overhead:	
Developer Fee	\$1,733,500
Developer Overhead	\$300,000
Subtotal Developer Fee and Overhead	\$2,033,500
Capitalized Reserves:	
Development Reserves	\$176,500
Initial Rent Up Reserves	\$290,000
Operating Reserves	\$0
Net Worth Account	\$0
Other Capitalized Reserves	\$0

Subtotal - Capitalized Reserves \$466,500

Summary of Subtotals

Item	Budgeted
Acquisition Costs (Actual):	\$3,000,000
Building Structural Costs (Hard Costs)	\$31,544,500
Site Work (Hard Costs)	\$3,893,000
General Conditions, Builder's Overhead & Profit (Hard Costs)	\$3,018,000
Developer Fee and Overhead	\$2,033,500
General Development Costs (Soft Costs)	\$6,677,500
Capitalized Reserves	\$466,500
Total Development Costs (TDC)	\$50,633,000
Summary	
Total Sources	\$50,633,000
Total Uses (TDC)	\$50,633,000

Projected Developer Fee and Overhead*: \$2,033,500

Maximum Allowable Developer Fee and Overhead**: \$3,494,375

Projected Developer Fee and Overhead Equals 58.00% of Maximum Allowable Fee and Overhead

* Note in particular the provisions of Section IV.B.5.a of the Guidelines, which detail the tasks (i) for which a developer may or may not receive compensation beyond the Maximum Allowable Developer Fee and Overhead and (ii) the costs of which must, if the tasks were performed by third parties, be included within the Maximum Allowable Developer Fee and Overhead.

** Please consult the most recent DHCD Qualified Allocation Plan (QAP) to determine how to calculate the maximum allowable developer fee and overhead. If you have any questions regarding this calculation, please contact MassHousing.

Initial Rental Operating Pro-Forma (for year one of operations)

Item	Notes	Amount
Permanent Debt Assumptions		
Loan Amount	Lender: Rockland Trust Bank	\$33,396,500
Annual Rate		5.75%
Term		60 Months
Amortization		360 Months
Lender Required Debt Service Coverage Ratio		1.25
Gross Rental Income		\$3,995,628
Other Income (utilities, parking)		\$400,000
Less Vacancy (Market Units)		\$219,781
Other Income (Affordable Units)		\$0
Gross Effective Income		\$4,175,847
Less Operating Expenses	Per Unit: 9,634	\$1,252,435
Net Operating Income		\$2,923,412
Less Permanent Loan Debt Service		\$2,338,715
Cash Flow		\$584,697
Debt Service Coverage		1.25

Describe Other Income:

NSF Fees, Late Fees, Pet Fees, Transfer Fees, Parking, Application Fees, Utility Reimbursement, Key Replacement, Miscellaneous.

Rental Operating Expense Assumption

Item	Notes	Amount
Assumed Maximum Operating Expenses	Calculated based on Net Operating Income, Debt Service and required Debt Service Coverage listed above.	\$1,252,435
Assumed Maximum Operating Expense/Unit*	Number of Units: 130	\$9,634

* MassHousing may request further detail regarding projected operating expenses if such expenses appear higher or lower than market comparables.

Application for Chapter 40B Project Eligibility / Site Approval

for MassHousing-Financed and New England Fund ("NEF") Rental Projects

Section 6: APPLICANT QUALIFICATIONS, ENTITY INFORMATION, AND CERTIFICATION

In order to issue Site Approval MassHousing must find (as required by 760 CRM 56.04 (4)) that the applicant is either a non-profit public agency or would be eligible to apply as a Limited Dividend Organization and meets the general eligibility standards of the program.

Development Team:

Company Name	Contact Name	Contact Role	Applicant	Dev Entity	Primary For Role
1165R Mass MA Property L	Daniel St. Clair, Project Ex	Developer	Yes	No	Yes
1165R Mass MA Property L	Julia Mirak Kew	Owner	No	Yes	No
BH+A	Joel Bargmann	Consultant - Architect and Enginee	No	No	No
Aberthaw Construction	Sean Cashman	Consultant - Construction Manager	No	No	No
EHM Real Estate Advisor	Edward H. Marchant	Consultant - Financing Package	No	No	No
Krattenmaker O'Connor & I	Mary Winstanley O'Connor	Consultant - Local Permit	No	No	No

Entities Responsible for Development Tasks:

Development Task	Developer / Applicant	Contact Name / Company
Architecture and Engineering	No	BH+A, Joel Bargmann
Construction Management	No	Aberthaw Construction, Sean Cashman
Finance Package	No	EHM Real Estate Advisor, Edward H. Marchant
Local Permitting	No	Krattenmaker O'Connor & Ingber P.C. , Mary Winstanley O'Connor

Affiliated Entities:

Company Name	Individual Name	Affiliation	Relation
Spaulding & Slye Investments	1165R Mass MA Property LLC	Managing Entity	Applicant
Spaulding & Slye Investments	1165R Mass MA Property LLC	Managing Entity	Development Entity
Spaulding & Slye Investments an	1165R Mass MA Property LLC	Related Affiliate	Applicant
Spaulding & Slye Investments an	1165R Mass MA Property LLC	Related Affiliate	Development Entity

Previous Applications:

Project Name:	Filing Date:
Municipality:	Decision Date:
Subsidizing Agency:	Decision:
Type:	Other Reference:

Certification and Acknowledgement

I hereby certify on behalf of the Applicant, under pains and penalties of perjury, that the information provided above for each of the Applicant Entities is, to the best of my knowledge, true and complete; and that each of the following questions has been answered correctly to the best of my knowledge and belief:

(Please attach a written explanation for all of the following questions that are answered with a "Yes". Explanations should be attached to this Section 6.)

Question	Answer
Is there pending litigation with respect to any of the Applicant Entities ?	No
Are there any outstanding liens or judgments against any properties owned by any of the Applicant Entities ?	No
Have any of the Applicant Entities failed to comply with provisions of Massachusetts law related to taxes , reporting of employees and contractors, or withholding of child support?	No
Have any of the Applicant Entities ever been the subject of a felony indictment or conviction ?	No
During the last 10 years, have any of the Applicant Entities ever been party to a lawsuit involving fraud , gross negligence, misrepresentation, dishonesty, breach of fiduciary responsibility or bankruptcy?	No
Have any of the Applicant Entities failed to carry out obligations in connection with a Comprehensive Permit issued pursuant to M.G.L. c. 40B and any regulations or guidelines promulgated thereunder (whether or not MassHousing is or was the Subsidizing Agency/Project Administrator) including, but not limited to, completion of a cost examination and return of any excess profits or distributions?	No
Have any of the Applicant Entities ever been charged with a violation of state or federal fair housing requirements ?	No
Are any of the Applicant Entities not current on all existing obligations to the Commonwealth of Massachusetts , and any agency, authority or instrument thereof?	No

I further certify that the information set forth in this application (including attachments) is true, accurate and complete as of the date hereof to the best of my/our knowledge, information and belief. I further understand that MassHousing is relying on this information in processing the request for Site Approval in connection with the above -referenced project; and

I hereby acknowledge our commitment and obligation to comply with requirements for cost examination and limitations on profits and distributions, all as found at 760 CMR 56.04(8) and will be more particularly set forth in a Regulatory Agreement by and between the Applicant and MassHousing.

I hereby acknowledge that will be required to provide financial surety by means of bond, cash escrow and a surety escrow agreement or letter of credit with the agreement that it may be called upon or used in the event that the Developer fails either to (i) complete and submit the examined Cost Certification as required by 760 CMR 56.04(8) and the Regulatory Agreement, or (ii) pay over to the Subsidizing Agency or the Municipality any funds in excess of the limitations on profits and distributions from capital sources as required by 760 CMR 56.04(8) and as set forth in the Regulatory Agreement.

Signature: _____

Name: Daniel St. Clair

Title: Project Executive of Applicant's Development Manager, Spaulding & Slye Investment

Date: 06/29/2020

Application for Chapter 40B Project Eligibility / Site Approval
for MassHousing-Financed and New England Fund ("NEF") Rental Projects

Section 7: NOTIFICATION AND FEES

Notices	
Event	Date
Date(s) of meetings, if any, with municipal officials prior to submission of application to MassHousing :	06/29/2020
Date copy of complete application sent to chief elected office of municipality :	
Date notice of application sent to DHCD:	06/30/2020

Fees	
Submit all Fees to MassHousing	
Item	Fee
MassHousing Application Processing Fee <i>(payable to MassHousing):</i>	\$2,500
Chapter 40B Technical Assistance/Mediation Fee <i>(payable to Massachusetts Housing Partnership):</i>	
a. Base Fee <i>(Limited Dividend Sponsor \$2500, Non-Profit or Public Agency Sponsor \$1,000)</i>	\$2,500
b. Unit Fee <i>(all projects \$50 per Unit)</i>	\$6,500
Total TA/Mediation Fee <i>(base fee plus Unit Fee)</i>	\$9,000

Land Appraisal Cost
You will be required to pay for an "as-is" market value appraisal of the Site to be commissioned by MassHousing. MassHousing will contact you once a quote has been received for the cost of the appraisal.



Traffic Impact Report

1165R Mass Ave Apartments
1165R Massachusetts Avenue
Arlington, MA

July 6, 2020

Prepared for:

1165R Mass MA Property LLC
c/o Spaulding & Slye Investments
One Post Office Square, 28th Floor
Boston, MA 02109

Submitted by:

Nitsch Engineering
2 Center Plaza, Suite 430
Boston, MA 02108

Nitsch Engineering Project #13990.



TABLE OF CONTENTS

1	Introduction	3
1.1	Existing Site	3
1.2	Proposed Development	3
1.3	Study Area	4
1.4	Methodology.....	4
2	Existing Conditions	8
2.1	Roadways	8
2.2	Study Intersections.....	10
2.3	Public Transportation	11
2.4	Bicycle Facilities.....	12
2.5	Pedestrian Mobility.....	12
3	Existing Traffic Conditions	12
3.1	Traffic Count Data	12
3.2	Seasonal Adjustment	16
3.3	Parking Utilization Assessment	16
4	Safety Analysis	19
4.1	Historical Data	19
4.2	2020 Crashes.....	21
5	Signal Warrant Analysis.....	21
6	Future No-Build Traffic Conditions.....	22
6.1	Background Growth	22
6.2	Additional Development and Planned Roadway Development.....	22
6.3	2025 No-Build Traffic Volumes	22
7	Proposed Future Conditions	24
7.1	Proposed 1165R Mass Ave Apartments Site	24
7.2	Trip Generation	26
7.3	Trip Distribution	27
7.4	Trip Assignment	27
7.5	2025 Build Traffic Volumes	30
7.6	Parking Generation	32
7.7	Construction Management Outline	33
8	Traffic Operations Analysis	34
8.1	Evaluation Criteria.....	34
8.2	Capacity Analyses.....	35
8.2.1	2020 Existing Conditions Capacity Analysis	35
8.2.2	2020 No-Build Conditions Capacity Analysis.....	37
8.2.3	2025 Build Conditions Capacity Analysis.....	39
9	Transportation Demand Management	41
10	Conclusions.....	42



LIST OF TABLES

Table 1 – Apartment Mix	3
Table 2 – Automatic Traffic Recorder (ATR) Summary	13
Table 3 – Site Parking Utilization Assessment Summary	17
Table 4 – Apartment Complex Parking Utilization Assessment Summary	18
Table 5 – Crash Statistics	19
Table 6 – Crash Rate Summary	20
Table 7 – Peak Hour Trip Generation	26
Table 8 – Mode Share for 1165R Mass Ave Apartments (Net Trip Generation)	27
Table 9 – Trip Distribution	27
Table 10 – Driveway Volume Comparison	30
Table 11 – Parking Requirement Comparisons	32
Table 12 – Future Parking Generation	32
Table 13 – Intersection Level of Service Criteria	34
Table 14 – Capacity Analysis Summary: 2020 Existing Conditions	36
Table 15 – Capacity Analysis Summary: 2025 No-Build Conditions	38
Table 16 – Capacity Analysis Summary: 2025 Build Conditions	40

LIST OF FIGURES

Figure 1: Locus Map	6
Figure 2: Existing Site and Study Area	7
Figure 3: 2020 Existing Peak Hour Volumes	14
Figure 4: 2020 Existing Pedestrian Peak Hour Volumes	15
Figure 5: 2025 No-Build Peak Hour Volumes	23
Figure 6: Site Access Diagram	25
Figure 7: Trip Distribution	28
Figure 8: Net Trip Generation Assignment	29
Figure 9: 2025 Build Peak Hour Volumes	31

APPENDIX CONTENTS

Traffic Count Data	A
MassDOT's 2019 Weekday Seasonal Adjustment Factors	B
Crash Rate Worksheets	C
Traffic Signal Warrant Analyses	D
Capacity Analysis	E

1 Introduction

Nitsch Engineering has prepared this Traffic Impact Report (TIR) for the proposed 1165R Mass Ave Apartments (“Project”), a building renovation and expansion project that will include an apartment complex with structured parking in the Mirak Innovation Park, located at 1165R Massachusetts Avenue in Arlington, Massachusetts. This TIR will review existing roadway conditions, access/egress, crash data, and traffic volumes, and it will analyze existing and future conditions at intersections in the study area to establish the impact the proposed improvements would have on traffic operations.

Figure 1 shows the Locus Map and Figure 2 shows the existing site and study area.

1.1 Existing Site

The proposed Project is located within the Mirak Innovation Park at 1165R Massachusetts Avenue in Arlington, Massachusetts. The Mirak Innovation Park is bounded by Massachusetts Avenue to the south, Quinn Road (Mirak Innovation Park East Driveway) to the east, the Minuteman Commuter Bikeway to the north, Forest Street to the southwest, and Ryder Street to the west. Mill Brook passes through the Innovation Park from west to east.

The site is located adjacent to the 2-story Workbar building, located at 1167 Massachusetts Avenue. Adjacent to Workbar is a 3-story building (“southeast building”), and north of Mill Brook is a 4-story mill building with a one-story building annexed to it. The Workbar and the existing 3-story building are bisected by a 12-foot wide reinforced concrete bridge over Mill Brook, which provides one (1) 9-foot bi-directional travel lane for access to the rear parking lots. All access to and egress from the Innovation Park is provided via Quinn Road, an Innovation Park driveway off Massachusetts Avenue (“West Driveway”), and a driveway off Ryder Street. In addition to Workbar, the two other main abutters are the Mirak Hyundai Car Dealership and the Robert Annesse Law Office. Both uses were granted an easement to use the West Driveway access for all egress and ingress.


Seventy-six parking spaces are provided for Workbar and mill Building tenants behind the existing Workbar building, as indicated on the site survey conducted by Control Point Associates, dated November 13, 2019. An additional 48 parking spaces behind the Mirak Chevrolet are also provided for tenants via a short-term lease agreement.

1.2 Proposed Development

Based on the current Site Plan, the proponent proposes to demolish the 3-story building east of Workbar and the 1-story annex building to the north of Mill Brook to develop two (2) new buildings and renovate two (2) existing buildings. The Project will consist of three (3) apartment buildings with 130 dwelling units and one (1) building for amenity space. Table 1 presents the current plan for the Apartment Mix.

Table 1 – Apartment Mix

Type	Percent Mix	Number of Units	Number of Bedrooms
Studio	24%	31	31
1-Bedroom	42%	55	55
2-Bedroom	24%	31	62
3-Bedroom	10%	13	39
Total	100%	130	187



Existing surface parking behind Workbar will be eliminated. However, 124 new parking spaces will be provided in the garages of Buildings #2 and #4, and 12 surface parking spaces will be provided. An agreement has been established to allow Workbar tenants to occupy 40 parking spaces during weekday business hours and 10 parking spaces at night and on weekends.

To accommodate two-way vehicular traffic and pedestrian traffic from Massachusetts Avenue to the north of Mill Brook, the bridge will have to be reconstructed to include two (2) 10.5-foot travel lanes and a minimum 4-foot wide sidewalk. The project team has employed a structural engineering team to assess the existing bridge conditions and to design a new bridge that will accommodate daily traffic as well as emergency vehicles.

1.3 Study Area

The study area includes the Mirak Innovation Park site, 12 adjacent roadway segments, and seven (7) intersections.

Roadways

- Massachusetts Avenue;
- Forest Street;
- Peirce Street;
- Ryder Street;
- Appleton Street;
- Appleton Place;
- Burton Street;
- Pine Court;
- Quinn Road (Mirak Innovation Park East Driveway);
- Mirak Innovation Park West Driveway;
- Quinn Access Road; and
- Mirak Innovation Park Ryder Street Driveway.

Intersections

- Massachusetts Avenue and Appleton Street/Appleton Place/Commercial Driveway;
- Massachusetts Avenue and Forest Street/Burton Street/Mirak Innovation Park West Driveway;
- Massachusetts Avenue and Pine Court;
- Massachusetts Avenue and Quinn Road (Mirak Innovation Park East Driveway);
- Mirak Innovation Park West Driveway and Quinn Access Road;
- Forest Street and Ryder Street/Peirce Street; and
- Ryder Street and Mirak Innovation Park Ryder Street Driveway.

1.4 Methodology

The traffic analysis herein summarizes the following:

1. A data collection of existing transportation conditions, including traffic data, crash history, roadway capacities, parking, transit, pedestrian and bicycle circulation, loading, and site conditions.


- 
2. An evaluation of future transportation conditions and an assessment of potential traffic impacts associated with the Project and other neighboring projects. Long-term impacts are evaluated for the year 2025, based on a five-year horizon from the 2020 base year. Expected roadway, parking, transit, pedestrian, and loading conditions and deficiencies are identified. This section includes the following scenarios:
 - a. The No-Build Scenario (2025), which includes general background growth and additional vehicular traffic associated with specific proposed or planned developments and roadway changes in the vicinity of the Project site; and
 - b. The Build Scenario (2025), which also includes specific travel demand forecasts associated with the Project.
 3. An evaluation of crash data and traffic volumes to determine if a traffic signal is warranted at any of the study intersections
 4. An identification of appropriate measures to mitigate Project-related impacts identified in the previous phase.
 5. An evaluation of short-term traffic impacts associated with construction activities.



Figure 1: Locus Map

1165R Mass Ave Apartments

Arlington, MA

Data Source: MassGIS
Nitsch Project #13990.



Figure 2: Existing Site and Study Area

1165R Mass Ave Apartments

Arlington, MA

Data Source: MassGIS
Nitsch Project #: 13990.



2 Existing Conditions

2.1 Roadways

Massachusetts Avenue

Massachusetts Avenue, colloquially referred to as Mass Ave, is a two-lane principal arterial roadway under Town of Arlington jurisdiction that stretches for 16 miles from the Dorchester neighborhood of Boston northwest to Minuteman Park in Lexington. Near the site, Massachusetts Avenue runs generally east-west with one lane in each direction, each approximately 14 feet wide, separated by a double-yellow center line. The sidewalks along both sides of the roadway are in good condition. Two-hour parking is provided on both sides of the roadway via 8-foot wide parking lanes, and shared bicycle pavement markings (“sharrows”) are provided in both directions in the vehicular travel lanes. The posted speed limit along Massachusetts Avenue in the site vicinity is 30 miles per hour (mph). There are two (2) Massachusetts Bay Transportation Authority (MBTA) bus stops in the site vicinity, one in each direction, that service the MBTA’s 77 and 79 bus routes.

Forest Street

Forest Street is a two-lane local roadway under Town of Arlington jurisdiction that runs in the general north-south direction from its northern terminus at Summer Street approximately a quarter mile to its southern terminus at Massachusetts Avenue. Near the site, Forest Street is 22 feet wide with no lane markings. Asphalt sidewalks are present on both side of the roadway, and on-street parking is restricted near the site. The speed limit is not posted along the roadway.

Peirce Street


Peirce Street is a two-lane local roadway under Town of Arlington jurisdiction that runs in the east-west direction from its western terminus at Locke Street approximately 0.15 miles to its eastern terminus as Forest Street. Near the site, Peirce Street is 22 feet wide with no lane markings. Concrete sidewalks with grass buffers are present and parking is allowed on both sides of the roadway. The speed limit is not posted along the roadway.

Ryder Street

Ryder Street is a two-lane private way, half of which is under ownership of the Project, from Forest Street to the site driveway. Ryder Street runs in the northeast-southwest direction from its southwestern terminus at Forest Street at Mill Brook to its northeastern terminus at the Minuteman Commuter Bikeway. Adjacent to the Ryder Street Driveway, Ryder Street is only 20 feet wide, though parking is not restricted on either side of the roadway. Asphalt sidewalk is provided only on the east side on the Ryder Street Bridge over Mill Brook, and no pavement markings are present along the roadway. The speed limit is not posted along the roadway.

Appleton Street

Appleton Street is a two-lane major collector roadway under Town of Arlington jurisdiction that runs in the northeast-southwest direction that connects Massachusetts Avenue, at its northeastern terminus, to Concord Avenue (Route 2) at its southwestern terminus. At its intersection with Massachusetts Avenue, the roadway provides one lane with marked shoulder in each direction, each lane approximately 12 feet wide, separated by a double-yellow center line. Centerline markings and shoulder makings are present from Massachusetts Avenue to Acton Street, about



200 feet to the west. Concrete sidewalks with grass buffers are present on both sides of the roadway. Although the marked shoulders are not wide enough for standard vehicles to park, parking is not restricted along the roadway. The speed limit is not posted along the roadway.

Appleton Place

Appleton Place is a two-lane local roadway under Town of Arlington jurisdiction that runs in the general northwest-southeast direction that connects Massachusetts Avenue at its northwestern terminus to Quincy Road approximately a quarter mile to the southeast. The road is 22 feet wide with no lane markings. Concrete sidewalks are present on both sides of the roadway, and parking is not restricted on the southeast-bound side of the road. The speed limit is not posted along the roadway.

Burton Street

Burton Street is a two-lane local roadway under Town of Arlington jurisdiction that runs in the north-south direction from its northern terminus at Massachusetts Avenue approximately three-quarters of a mile to its southern terminus at Appleton Place. The road is 22 feet wide with no lane markings. Concrete sidewalks with grass buffer strips are present and parking is not restricted on both sides of the roadway. The speed limit is not posted along the roadway.

Pine Court

Pine Court is a narrow privately owned local roadway that runs in the north-south direction from its northern terminus at Massachusetts Avenue approximately three-quarters of a mile to its southern terminus at Appleton Place. Although the road is narrow, parking is not restricted. Sidewalks are not provided on either side of the roadway; and the pavement is in poor condition and in need of repairs. The speed limit is not posted along the roadway.

Quinn Road

Quinn Road is two-way privately owned local roadway that runs in the north-south direction. The road serves as a driveway entrance to the Mirak Innovation Park next to the Mirak Chevrolet service center. At its intersection with Massachusetts Avenue, the road is approximately 30 feet with no lane markings and no sidewalks. The speed limit is not posted along the roadway.

Mirak Innovation Park West Driveway

Mirak Innovation Park West Driveway is private and under ownership of the Project proponent. The driveway runs in the north-south direction, connecting Massachusetts Avenue to the Workbar/Mirak Mill parking lot over the Mill Brook bridge. The driveway is approximately 20 feet wide with no lane markings and no sidewalks.

Quinn Access Road

Quinn Access Road is a privately owned roadway that runs parallel to Massachusetts Avenue in the east-west direction, connecting the Mirak Innovation Park West Driveway to Quinn Road south of Mill Brook. The road also serves as access to three small paved surface parking lots that are used by Mirak dealership employees. The speed limit is not posted along the roadway.



Mirak Innovation Park Ryder Street Driveway

Mirak Innovation Park Ryder Street Driveway is privately owned and runs in the east-west direction from Ryder Street to the Mirak Mill Park West Driveway north of Mill Brook. The driveway provides direct access to the existing surface parking space located to the north of Workbar.

2.2 Study Intersections

Massachusetts Avenue and Appleton Street/Appleton Place/Commercial Driveway

Massachusetts Avenue intersects with Appleton Street, Appleton Place, and a commercial driveway to form a five-legged intersection, with the Massachusetts Avenue approaches operating freely, and the Appleton Street and Appleton Place under stop control. The Massachusetts Avenue eastbound and westbound approaches consist of one full-movement lane with adjacent on-street parking in each direction. The Appleton Street northeast-bound approach and the Appleton Place northbound approach each consist of one full-movement lane with stop signs and stop bars present. The commercial driveway southbound approach consists of one full-movement lane with no stop signs or stop bars present. Bus stops for the MBTA Bus Routes 77 and 79 are located at the Massachusetts Avenue eastbound approach. Ladder-style painted crosswalks are present at the westbound and northbound approaches accompanied by wheelchair ramps with detectable warning panels at each corner. Traffic signals are present at each corner of the intersection and flash yellow to warn motorists to proceed with caution. However, the intersection effectively operates as an unsignalized intersection.

Massachusetts Avenue and Forest Street/Burton Street/Mirak Innovation Park West Driveway

Massachusetts Avenue intersects with Forest Street, Burton Street, and the Mirak Innovation Park West Driveway to form a five-legged unsignalized intersection, with the two Massachusetts Avenue approaches operating freely, and the Forest Street, Burton Street, and West Driveway approaches under stop control. The Massachusetts Avenue eastbound and westbound approaches consist of one 14-foot wide full-movement lane with adjacent on-street parking in each direction. The Burton Street northbound approach consists of one full-movement lane with a stop sign and stop bar present and no posted parking restrictions. The Forest Street southeast-bound approach consists of one full-movement lane with parking restricted on both sides of the roadway and a stop sign and stop bar present. The West Driveway southbound approach provides one lane in each direction, though there are no pavement markings present. Ladder-style painted crosswalks are present at the eastbound, northbound, and southbound approaches, accompanied by wheelchair ramps with detectable warning panels at each corner.

Massachusetts Avenue and Pine Court

Massachusetts Avenue intersects with Pine Court to form a three-legged unsignalized intersection, with the Massachusetts Avenue approaches operating freely, and the Pine Court approach under stop control. The Massachusetts Avenue eastbound and westbound approaches consist of one full-movement lane with adjacent on-street parking in each direction. The Pine Court northbound approach consists of one full-movement lane; however, there is no stop sign, yield sign, or stop bar present. A ladder-style painted crosswalk is present at the Pine Court approach accompanied by wheelchair ramps with detectable warning panels at each corner.



Massachusetts Avenue and Quinn Road (Mirak Innovation Park East Driveway)

Massachusetts Avenue intersects with Quinn Road to form a three-legged unsignalized intersection, with the Massachusetts Avenue approaches operating freely, and the Quinn Road approach under stop control. The Massachusetts Avenue eastbound and westbound approaches consist of one full-movement lane with adjacent on-street parking in each direction. The Quinn Road southbound approach consists of one full-movement lane with a stop sign and stop bar. The stop sign for the southbound approach is attached to a utility pole on the left side of the approach. A ladder-style painted crosswalk is present at the Quinn Road approach accompanied by wheelchair ramps with detectable warning panels at each corner.

Mirak Innovation Park West Driveway and Quinn Access Road

The West Driveway intersects with Quinn Access Road to form a three-legged unsignalized intersection, with the West Driveway approaches operating freely and the Quinn Access Road westbound approach terminating at the West Driveway. The West Driveway and Quinn Access Road approaches consist of one full-movement lane in each direction with no stop signs or stop bars present.

Forest Street and Ryder Street/Peirce Street

Forest Street intersects with Peirce Street and Ryder Street to form a four-legged unsignalized intersection, with the Forest Street approaches operating freely, and the Ryder Street and Peirce Street approaches under stop control. The Forest Street northbound and southbound approaches consist of one full-movement lane with adjacent on-street parking in each direction. The Peirce Street eastbound approach consists of one full-movement lane with a stop sign and stop bar. The Ryder Street westbound approach, offset slightly to the south relative to Peirce Street, consists of one full-movement lane; however there is no stop sign, yield sign, or stop bar present. A ladder-style painted crosswalk is present at the Peirce Street approach accompanied by wheelchair ramps with detectable warning panels at each corner.

Ryder Street and Mirak Innovation Park Ryder Street Driveway

Ryder Street intersects with Mirak Mill Ryder Street Driveway to form a three-legged unsignalized intersection, with the Ryder Street approaches operating freely and the driveway westbound approach under stop control. The Ryder Street eastbound and westbound approaches consist of one full-movement lane with adjacent on-street parking in each direction. The Ryder Street Driveway approach consists of one full-movement lane with no stop signs or stop bars present.


2.3 Public Transportation

Subway

Alewife Station is located about 3.5 miles southeast of the study area at the intersection of Concord Turnpike and Alewife Brook Parkway in Cambridge. The station is the northern terminus of the MBTA's Red Line, which provides direct access to Downtown Boston and other cities, including Somerville, Quincy, and Braintree.

Bus

MBTA bus services are available near the site. MBTA Bus Route 67, connecting Alewife Station and Turkey Hill, runs along Summer Street. The closest stops for Route 67 traveling to Alewife are located on the south side of



Summer Street about 125 feet east of Forest Street and at the intersection of Washington Street and Summer Street. Bus Route 67 coming from Alewife to Turkey Hill stops at the intersection of Summer Street and Washington Street and then travels along Washington Street to Lawrence Lane. MBTA Bus Routes 77 and 79 run along Massachusetts Avenue near the site. Route 77 connects between Arlington Heights and Harvard Square, and Route 79 connects between Arlington Heights and Alewife Station. The closest designated stops for both inbound and outbound directions for these routes are located at the intersection of Massachusetts Avenue and Appleton Street/Appleton Place and at the intersection of Massachusetts Avenue and Quincy Street. Routes 67 and 79 provide direct access to Alewife Station, and Route 77 provides access to East Arlington, Somerville, and Cambridge.

2.4 Bicycle Facilities

The Minuteman Commuter Bikeway, a 10-mile long paved trail connecting Bedford to Alewife Station, passes near the north boundary of the Mirak Innovation Park, running parallel to Massachusetts Avenue. The length of the bikeway from Ryder Street to Alewife Station is about 3.5 miles, making it a useful non-motorized commuting option. Access to the Bikeway is provided at the north end of Ryder Street, making it easily accessible from the proposed site. Massachusetts Avenue has shared lanes with Sharrows in both directions of travel, and Appleton Street has paved shoulders in both directions that can be used by bicyclists. Shared or dedicated bicycle lanes are not present on the rest the town-owned or private roadways in the project area, though motorized volumes are comparatively low on those roads. A dockless bike-sharing program was being operated in the town until the end of 2019.

2.5 Pedestrian Mobility

Sidewalks are present on both sides of Massachusetts Avenue, Forest Street, Appleton Street, Appleton Place, and Burton Street, providing ample opportunity for pedestrian mobility. Crosswalks are present at the intersection of Forest Street and Ryder Street/Peirce Street and at all intersections along Massachusetts Avenue. On-site sidewalks are not currently present on the West Driveway from Massachusetts Avenue or on the Ryder Street Driveway from Ryder Street.

3 Existing Traffic Conditions

3.1 Traffic Count Data

Nitsch Engineering retained Precision Data Industries, Inc. (PDI) of Framingham, Massachusetts to collect traffic data within the study area, including both Automatic Traffic Recorder (ATR) counts and Turning Movement Counts (TMCs).

ATR Data

PDI collected ATR counts for a continuous 48-hour period at five locations from Tuesday, February 4, 2020 to Wednesday, February 5, 2020. The ATR data with seasonal adjustments per Section 3.2 are summarized in Table 2. The ATR data is included in Appendix A.

Table 2 – Automatic Traffic Recorder (ATR) Summary

Location	Period	ADT ^a			Peak Hour Traffic				K Factor ^d
		Volumes (vpd) ^b	Directional Distribution		Period	Volumes (vph) ^c	Directional Distribution		
Massachusetts Avenue, between Burton Road and Pine Court	Weekday	13,127	51%	EB	Morning	1,052	53%	WB	0.08
					Afternoon	1,051	57%	EB	0.08
Mirak Mill Park West Driveway, north of Massachusetts Avenue	Weekday	464	53%	NB	Morning	48	85%	NB	0.10
					Afternoon	41	77%	SB	0.09
Quinn Road, north of Massachusetts Avenue	Weekday	546	50%	SB	Morning	56	57%	NB	0.10
					Afternoon	41	77%	SB	0.07
Forest Street, north of Massachusetts Avenue	Weekday	4,042	56%	NB	Morning	480	61%	SB	0.12
					Afternoon	425	71%	NB	0.11
Burton Road, south of Massachusetts Avenue	Weekday	548	65%	SB	Morning	69	51%	SB	0.13
					Afternoon	23	57%	NB	0.04
^a Average Daily Traffic; ^b Vehicles per day; ^c Vehicles per hour; ^d Proportion of daily traffic NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound									

TMC Data

PDI collected TMC data at the seven (7) study intersections on Tuesday, February 4, 2020. TMC data was recorded from 7:00 AM to 9:00 AM to capture the weekday morning traffic peak hours and from 4:00 PM to 6:00 PM to capture the weekday evening traffic peak hours. The counts included passenger vehicles, heavy vehicles, bicycles, and pedestrians. The existing peak-hour traffic volumes at these intersections in the form of turning movements, seasonally adjusted per Section 3.2, are shown in Figure 3. The pedestrian existing peak-hour volumes are shown on Figure 4. The TMC data is included in Appendix A.

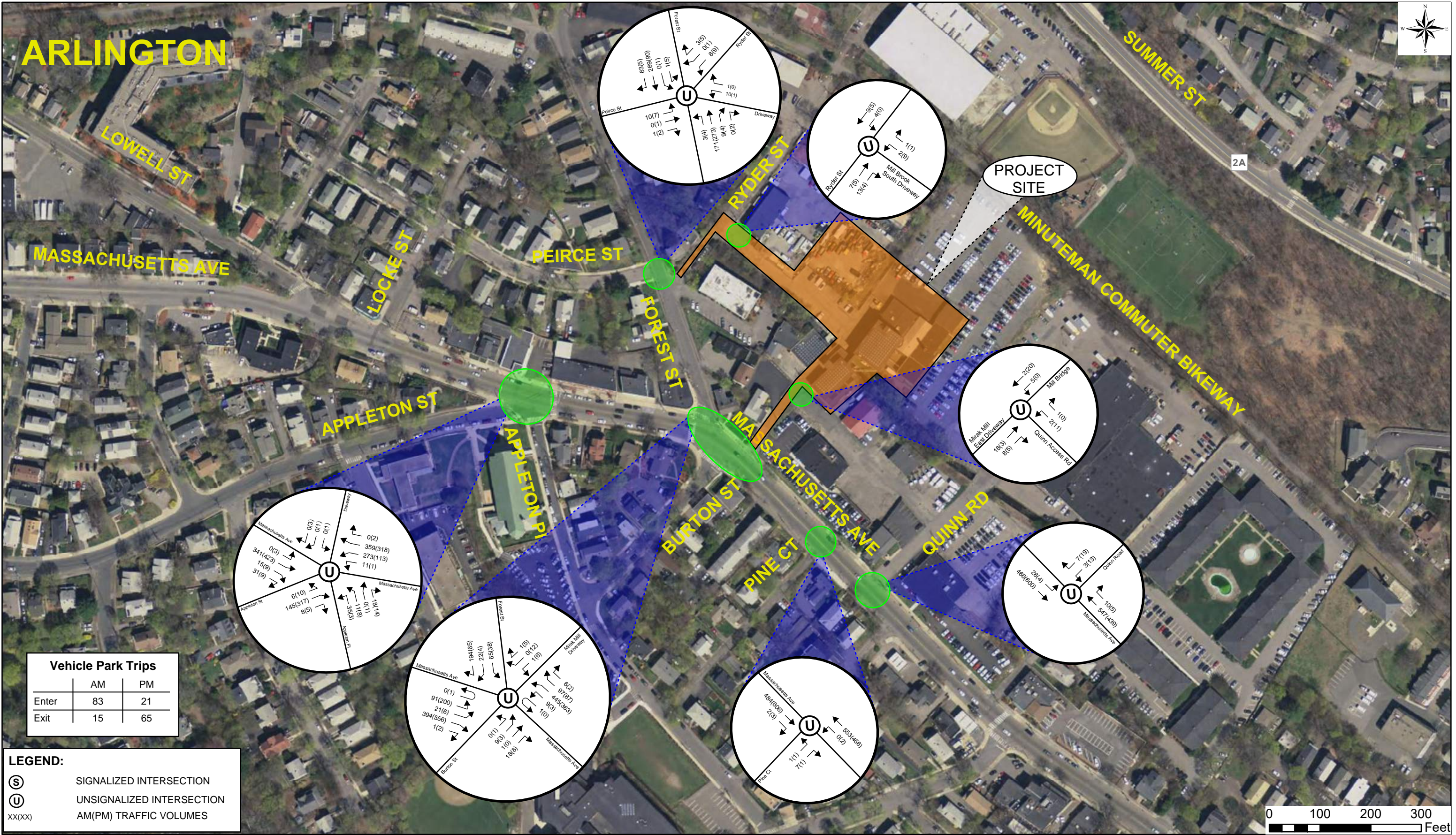


Figure 3: 2020 Existing Peak Hour Volumes

1165R Mass Ave Apartments

Arlington, MA

Data Source: MassGIS
Nitsch Project #13990.

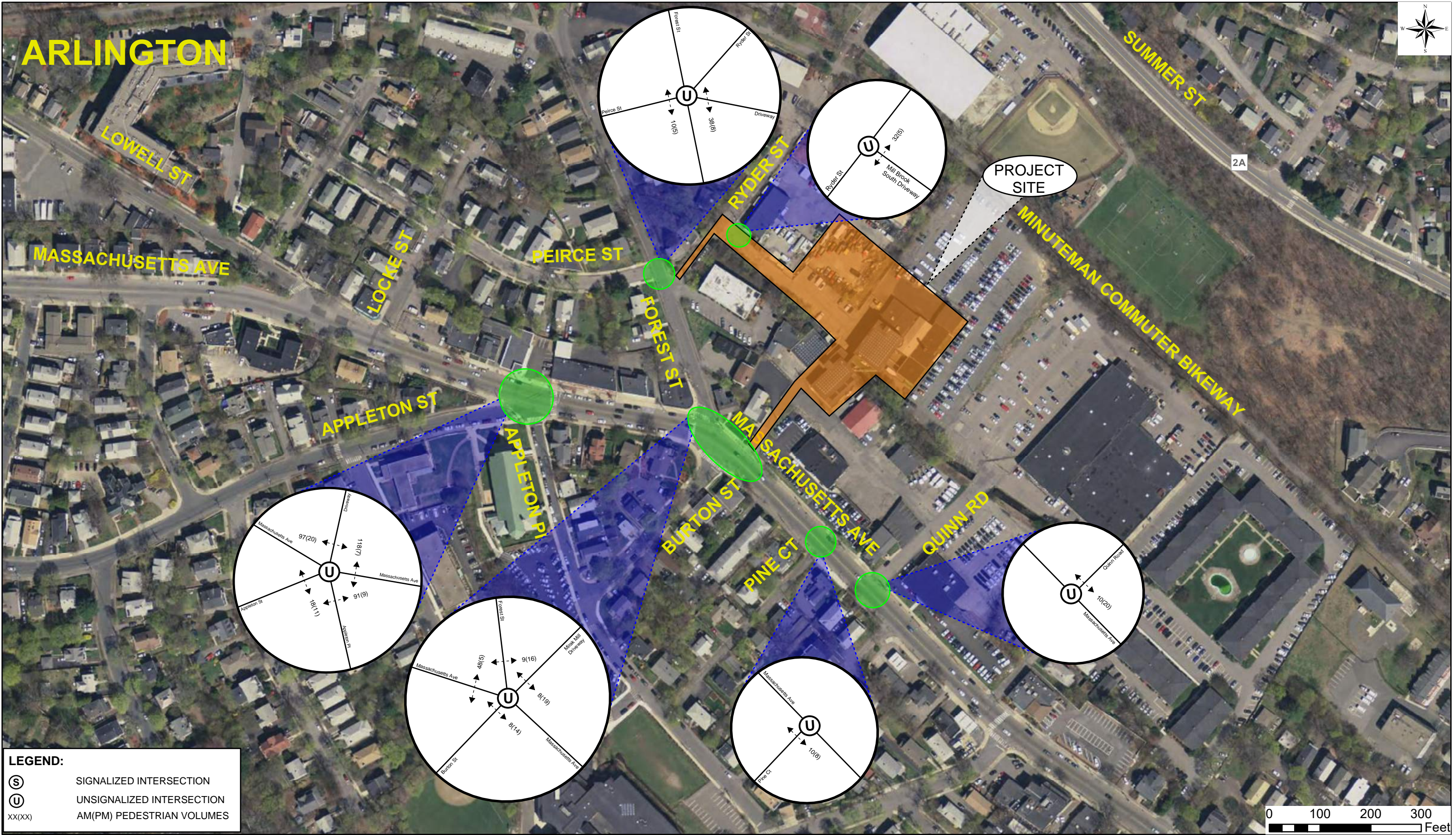


Figure 4: 2020 Existing Pedestrian Peak Hour Volumes

1165R Mass Ave Apartments

Arlington, MA

Data Source: MassGIS
Nitsch Project #13990.



3.2 Seasonal Adjustment

Nitsch Engineering queried MassDOT traffic data for counts nearby that would establish a seasonal adjustment for the volumes we measured in May and June. No local data was available, so Nitsch Engineering used MassDOT's 2019 Weekday Seasonal Adjustment Factors.

Massachusetts Avenue falls within Group U3 – “Urban Other Principal Arterial.” Forest Street, Appleton Street, and Appleton Place fall within U5 – “Urban Major Collector.” Peirce Street, Ryder Street, Burton Street, Quinn Road, and Pine Court fall within U7 – “Urban Local Road.” The seasonal factors for counts within Group U3 for the month of February is 1.03, indicating that traffic volumes are 3% lower than average. For Groups U5 and U7, the seasonal factor for February is 1.00, indicating that it represents an average month. To present a conservative approach, we increased the counted volumes on all Massachusetts Avenue approaches by 3%, and we did not adjust the volumes on the approaches of all other roadways. Traffic volumes in Table 2 and Figure 3 reflect the seasonal adjustment. MassDOT's 2019 Weekday Seasonal Factors are included in Appendix B.

3.3 Parking Utilization Assessment

Site Utilization

As the Project will be eliminating most of the parking lot behind Workbar, the Proponent has agreed to provide enough garage parking to reserve 40 weekday spaces and 10 evening and weekend spaces for Workbar tenants. Therefore, Nitsch Engineering conducted a parking utilization assessment to determine the existing demand for Workbar tenants and determine if the agreed-upon allotted spaces would provide enough capacity. The parking lots allocated for Workbar and Mill building tenant parking were counted on Wednesday, January 29 from 6:00 PM to 8:00 PM, on Thursday, January 30 from 6:00 AM to 8:00 AM and from 12:00 PM to 2:00 PM, and on Saturday, February 1 from 9:00 AM to 11:00 AM. Standard methodology for determining parking generation is to use the Institute of Transportation Engineers' (ITE) *Parking Generation, 10th Edition*¹ (“the ITE method”). Per ITE these count periods represent the peak and off-peak hours for a typical residential development during the weekday; and the combined overlapping peak hours for an office and residential development on a Saturday.

The parking utilization assessment summary is shown in Table 3.

¹ *Trip Generation*, Institute of Transportation Engineers, 10th Edition, 2016, Washington, D.C.

Table 3 – Site Parking Utilization Assessment Summary

Day and Time		Occupied Spaces	Maximum Utilization %
Weekday Morning	6:00 AM - 6:30 AM	1	4%
	6:30 AM - 7:00 AM	1	
	7:00 AM - 7:30 AM	3	
	7:30 AM - 8:00 AM	3	
Weekday Midday	12:00 PM - 12:30 PM	43	68%
	12:30 PM - 1:00 PM	52	
	1:00 PM - 1:30 PM	47	
	1:30 PM - 2:00 PM	45	
Weekday Evening	6:00 PM - 6:30 PM	5	7%
	6:30 PM - 7:00 PM	3	
	7:00 PM - 7:30 PM	4	
	7:30 PM - 8:00 PM	4	
Saturday Mid-morning	9:00 AM - 9:30 AM	3	5%
	9:30 AM - 10:00 AM	4	
	10:00 AM - 10:30 AM	4	
	10:30 AM - 11:00 AM	4	

Table 3 shows that during the weekday, the maximum utilization rate for the Workbar and mill building tenants is lowest in the morning and highest in the midday period. During the weekday, the highest number of spaces occupied during midday was 52. As this number represents the occupancy for the combined uses, it is necessary to determine the portion that is allocated to just the Workbar tenants.

We used ITE Parking Land Use Code (LUC) 710 – “General Office Building.” For an office building (the mill building) comprising approximately 17,000 square feet, the ITE estimated number of occupied parking spaces for the peak midday would be 41. Based on the Town of Arlington 2015 Master Plan, the mode share for this location is 67% vehicles (detailed below in Section 7.2). Therefore, the Mill building is estimated to generate 28 occupied parking spaces at the peak midday period.

From this data, we can conclude that Workbar tenants occupied 24 parking spaces during the peak utilization period. Therefore, the 40 parking spaces for during the weekday and 10 spaces on Saturday that will be provided for Workbar should be enough.

Comparable Developments

In addition to the site utilization, Nitsch Engineering conducted parking utilization counts at three (3) nearby apartment complexes to determine the parking utilization at similar residential transit-oriented developments in Arlington to determine the future parking required at the site (described in Section 7.6). The following developments were counted:

- Brigham Square Apartments at 30 Mill Street on January 29, 2020 from 6:00 AM to 8:00 AM, on January 30, 2020 from 6:00 PM to 8:00 PM, and on February 1, 2020 from 9:00 AM to 11:00 AM;
- Arlington 360 at 4205 Symmes Circle on January 30, 2020 from 12:00 PM to 2:00 PM; and
- The Legacy at Arlington Center at 438 Massachusetts Avenue on February 1, 2020 from 9:00 AM to 2:00 PM.

Table 4 summarizes the parking count data at nearby apartment complexes.

Table 4 – Apartment Complex Parking Utilization Assessment Summary

	Location			Average
	The Legacy at Arlington Center	Brigham Square Apartments	Arlington 360	
Total parking spaces	155	153	284	
Number of Bedrooms	247	179	241	
Peak Parking Observed	83	99	182	
Peak Parking Utilization (spaces/bd)	0.34	0.55	0.76	0.55

To determine the future anticipated resident parking (described in Section 7.6) throughout the day, we calculated the average parking lot utilization reduction during the weekday midday and Saturday mid-morning periods which represent the peak Workbar utilization periods. This data will be used to determine if there will be a significant reduction in resident parking to accommodate the Workbar parking. Our calculations indicated there was an average 15% parking reduction during the weekday midday period and an average 2% reduction during the Saturday mid-morning period.

4 Safety Analysis

4.1 Historical Data

We researched the crash data within the study area for the three (3) most recent years available from the MassDOT records, 2017 to 2019. Table 5 summarizes the crash statistics for the seven study intersections.

Table 5 – Crash Statistics

Location	Number of Crashes			Severity				Manner of Collision				Incl. Ped/ Bike ⁱ	Percent During	
	Year	Total Crashes	Annual Average	PD ^a	PI ^b	NR ^c	F ^d	A ^e	RE ^f	HO ^g	Other ^h		Peak Hours ^k	Wet/Icy Conditions
Massachusetts Avenue and Appleton Street/ Appleton Place/ Commercial Driveway	2017	4	3.3	4				2	2				0%	50%
	2018	0												
	2019	6		5		1		3	3				33%	50%
	Total	10		9	0	1	0	5	5	0	0	0	20%	50%
Massachusetts Avenue and Forest Street/ Burton Street/ West Driveway	2017	2	3.3			2			2				0%	0%
	2018	0												
	2019	8		7	1			4	3		1		38%	38%
	Total	10		7	1	2	0	4	5	0	1	0	30%	30%
Massachusetts Avenue and Pine Court	2017	0	0.7											
	2018	2			2			2					100%	100%
	2019	0												
	Total	2		0	2	0	0	2	0	0	0	0	100%	100%
Massachusetts Avenue and Quinn Road	2017	0	0.0											
	2018	0												
	2019	0												
	Total	0		0	0	0	0	0	0	0	0	0	0%	0%
West Driveway and Quinn Access Road	2017	0	0.0											
	2018	0												
	2019	0												
	Total	0		0	0	0	0	0	0	0	0	0	0%	0%
Forest Street and Ryder Street/ Peirce Street	2017	4	4.0	4				2	2				0%	50%
	2018	2		2				2					0%	0%
	2019	6		5		1		3	3				33%	50%
	Total	12		11	0	1	0	7	5	0	0	0	17%	42%
Ryder Street and Ryder Street Driveway	2017	0	0.0											
	2018	0												
	2019	0												
	Total	0		0	0	0	0	0	0	0	0	0	0%	0%

^aProperty Damage Only; ^bPersonal Injury Only (non-Fatal Injury); ^cNot Reported; ^dFatality; ^eAngle; ^fRear-end; ^gHead-on; ^hSideswipe, opposite direction; sideswipe, same direction, single vehicle crash, rear-to-rear, not reported, unknown, etc.; ⁱIncludes pedestrian or cyclist; ^kOccurred between 7-9am or 4-6pm

A total of 34 crashes were reported within the study area from 2017 to 2019. There were no reported crashes at the intersections of Massachusetts Avenue and Quinn Road, Mirak Innovation Park West Driveway and Quinn Access Road, and Ryder Street and Mirak Innovation Park Ryder Street Driveway during the study period. In terms of severity, three (3) crashes in the study area reported personal injury, and there were no crashes with fatalities. Angle crashes were the most frequent type of crash with a total of 18 crashes, and of the remaining crashes, 15 were rear-end and one (1) was a single vehicle crash. No crashes involving pedestrians or bicycles were reported. Twenty-six percent of all crashes in the study area occurred during peak hours, and 44% of all crashes occurred under wet/icy conditions.

Crash rates for intersections are expressed by the number of crashes per million entering vehicles (MEV). Table 6 compares the crash rates for the study intersections with the Statewide and District 4 averages. The intersection crash rate calculations are included in Appendix C.

Table 6 – Crash Rate Summary

Location	Facility Type	Number of Crashes ^a	Crash Rate ^b	Average Rates ^{b,c}		Comparison to Average Rates	
				District 4	Statewide	District 4	Statewide
Massachusetts Avenue and Appleton Street/Appleton Place/Commercial Driveway	Unsignalized Intersection	10	0.60	0.57	0.57	Slightly Above	Slightly Above
Massachusetts Avenue and Forest Street/Burton Street/West Driveway	Unsignalized Intersection	10	0.54	0.57	0.57	Slightly Below	Slightly Below
Massachusetts Avenue and Pine Court	Unsignalized Intersection	2	0.14	0.57	0.57	Below	Below
Massachusetts Avenue and Quinn Road	Unsignalized Intersection	0	0.00	0.57	0.57	Below	Below
West Driveway and Quinn Access Road	Unsignalized Intersection	0	0.00	0.57	0.57	Below	Below
Forest Street and Ryder Street/Peirce Street	Unsignalized Intersection	12	1.59	0.57	0.57	Above	Above
Ryder Street and Ryder Street Driveway	Unsignalized Intersection	0	0.00	0.57	0.57	Below	Below
^a Based on 3-year crash history from MassDOT, 2014-2016 ^b Intersections: Crashes per million entering vehicles (MEV), ^c Based on latest MassDOT crash data queried June 2018							

Crash rates at four (4) of the study intersections are all well below the District 4 and Statewide averages. The crash rates for the intersection of Massachusetts Avenue and Appleton Street/Appleton Place/Commercial Driveway and the intersection of Massachusetts Avenue and Forest Street/Burton Street/Mirak Innovation Park West Driveway are comparable to the District 4 and Statewide averages, the former being slightly above those averages and the latter being slightly below. The crash rate at the intersection of Forest Street and Ryder Street/Peirce Street is nearly three (3) times the District 4 and Statewide averages.



4.2 2020 Crashes

As historical data is only available through 2019, crashes in 2020 were not captured in the Safety Analysis. However, it is important to note that in May 2020, a fatal collision involving a bicyclist occurred at the intersection of Massachusetts Avenue and Appleton Street/Appleton Place and in June 2020, a non-fatal vehicle crash occurred at the intersection of Massachusetts Avenue and Forest Street/Burton Street/West Driveway. While the details of the crashes were not available at the time of this study, it is evident that these locations experience serious safety issues related to bicyclist and motorist conflicts. Intersection geometry, limited on-street bicycle facilities, flashing traffic signal equipment, congestion, and other inhibiting factors could all contribute to the safety issues at these intersections. While the Project is not expected to increase the safety concerns at the study intersections, it is recommended that the Town conduct a further traffic study or Road Safety Audit to determine the appropriate measures to reduce the number of crashes in the Project vicinity.

5 Signal Warrant Analysis


We conducted traffic signal warrant analyses for the two (2) unsignalized driveways for Mirak Innovation Park along Massachusetts Avenue to determine whether signalization might be justified. We used the 2020 ATR volumes for Massachusetts Avenue, Forest Street, Burton Street, Mirak Mill Ryder Street Driveway, and Quinn Road to analyze the intersections of Massachusetts Avenue at Forest Street/Burton Street/Mirak Mill Ryder Street Driveway and Massachusetts Avenue at Quinn Road (Mirak Innovation Park East Driveway).

The current MUTCD contains nine (9) traffic signal warrants, at least one of which should be satisfied to justify the installation of a traffic signal at a location. Satisfying one or more warrants, however, does not necessarily require the installation of a traffic signal. The traffic signal warrants are:

- Warrant 1: Eight-Hour Vehicular Volume;
- Warrant 2: Four-Hour Vehicular Volume;
- Warrant 3: Peak Hour;
- Warrant 4: Pedestrian Volume;
- Warrant 5: School Crossing;
- Warrant 6: Coordinated Signal System;
- Warrant 7: Crash Experience;
- Warrant 8: Roadway Network; and
- Warrant 9: Intersection Near a Grade Crossing.

We conducted the signal warrant analysis using the procedures contained in the MUTCD. Not all warrants are applicable to all intersections, and data availability may limit which warrants can be evaluated. For this analysis, we evaluated three warrants: eight-hour vehicular volume, four-hour vehicular volume, and peak hour volume.

Based on our analysis of existing conditions, the intersection of Massachusetts Avenue at Quinn Street did not meet any of the warrants. However, the intersection of Massachusetts Avenue at Forest Street/Burton Street/ West Driveway met all three (3) evaluated warrants. As shown in our Capacity Analysis in Section 8.5, the proposed project does not significantly degrade intersection operations that would warrant the proponent to install a new traffic signal. The Project Team has learned that the Select Board has approved the creation of a design review committee to study both short-term and long-term improvements at the intersection of Appleton Street/Appleton Place and Massachusetts Avenue.



Appendix D includes the signal warrant analysis worksheets.

6 Future No-Build Traffic Conditions

Nitsch Engineering used the 2020 existing traffic volumes as the baseline for projecting traffic volumes to future 2025 No-Build conditions. To determine future 2025 conditions, the following steps are included:

- Project existing 2020 traffic volumes five (5) years in the future to the horizon year (2025) using an annual background traffic growth factor to account for regional growth;
- Add traffic volumes associated with any planned developments that may impact the study area;
- Include any planned roadway improvements that may affect traffic volumes; and
- Analyze the study area location to determine future traffic operations.

6.1 Background Growth

We reviewed the Town of Arlington's 2015 Master Plan to determine an appropriate growth rate to apply to the 2020 existing traffic volumes. As noted in Table 2.1 in Chapter 2 of the Master Plan, the expected growth from 2020 to 2030 is 3.3%, which equates to an annual 0.33% background growth rate. Understanding that development is increasing in the Greater Boston Area, we selected a conservative rate of 2.0% per year to represent regional background growth of traffic in this area. We applied this growth rate over the 5-year design period for the turning movement data.

6.2 Additional Development and Planned Roadway Development

Nitsch Engineering contacted the Town of Arlington Planning Board to establish any planned developments that will potentially add traffic to the study area who indicated that there are no planned developments or roadway projects in the vicinity that would affect our development.

However, in collaboration with the Project team we learned that a 50-unit hotel with ancillary restaurant space will be developed in the vicinity of the Project at 1207 – 1211 Massachusetts Avenue. According to the Traffic Impact Study developed by BSC Group, Inc dated June 2020, the hotel is anticipated to generate an approximate net increase of 18 trips during the weekday morning peak hour and 23 trips during the weekday evening peak hour. For the purposes of the Project Traffic Impact Report, the conservative 2% background growth rate applied to the existing traffic volumes is sufficient to capture the anticipated hotel traffic volume.

6.3 2025 No-Build Traffic Volumes

We developed the 2025 No-Build volumes by the applying annual growth rate for five (5) years to the 2020 Existing traffic volumes at the study intersections. Figure 5 presents the peak hour traffic volumes for 2025 No-Build conditions.

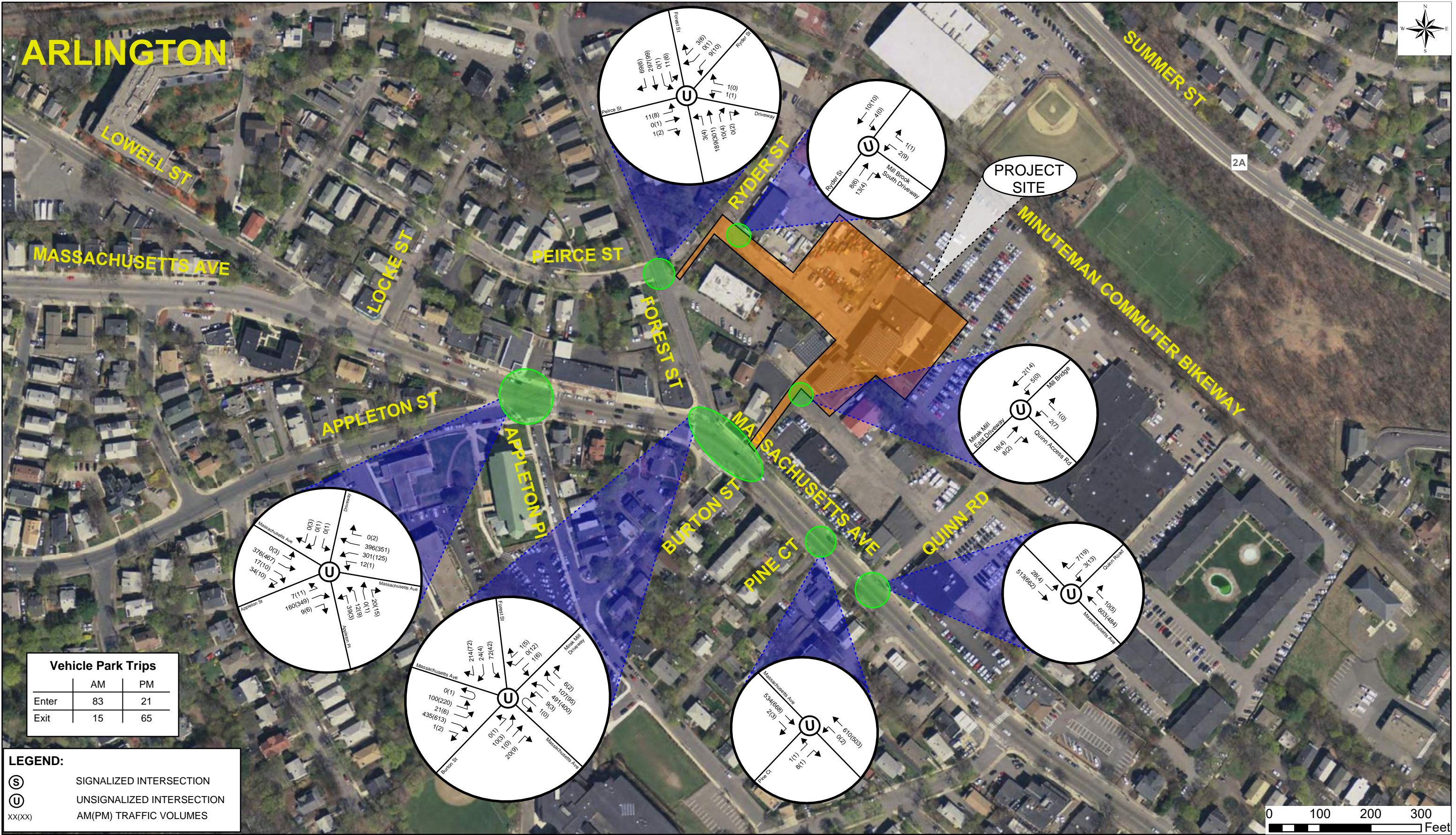


Figure 5: 2025 No-Build Peak Hour Volumes

1165R Mass Ave Apartments

Arlington, MA

Data Source: MassGIS
Nitsch Project #13990.



7 Proposed Future Conditions

7.1 Proposed 1165R Mass Ave Apartments Site

The proponent proposes to demolish the 3-story building east of Workbar and the 1-story annex building to the north of Mill Brook to develop two (2) new buildings and renovate two (2) existing buildings. The Project will consist of three (3) apartment buildings with 130 dwelling units and one (1) building for amenity space.

Vehicle Access and Circulation

To provide an efficient site circulation and limit the impacts to the abutters, wayfinding signage will be placed at the egress approach to the West Driveway (at the Quinn Access Road) and at the ingress approach to the Ryder Street Driveway. The wayfinding signage will indicate that tenants will have ingress-only provided at the West Driveway and egress-only at the Ryder Street Driveway. However, access at the West Driveway will remain ingress and egress for the two abutters, the Mirak Hyundai car dealership and the Robert Annese Law Office. Similarly, access at the Ryder Street Driveway will remain ingress and egress for all abutters. Access via Quinn Road and the Quinn Access Road will remain two-way for all users. To accommodate two-way traffic and pedestrian traffic from Massachusetts Avenue to the north of Mill Brook, the bridge will have to be reconstructed to include two (2) 10.5-foot travel lanes and a minimum 4-foot wide sidewalk.

Parking

Parking will be provided via 14 spaces in the basement-level garage of Building 2 south of Mill Brook, 110 spaces in the two-level garage of Building 4 north of Mill Brook, and surface parking with twelve (12) spaces, totaling 136 proposed parking spaces. Access to the two-level garage will be provided via a two-way driveway on the south side of the building, and access to the basement-level garage will be provided via a two-way driveway on the east side of the reconstructed southeast building. An agreement has been established to allow Workbar tenants to occupy 40 parking spaces during the weekday business hours and 10 parking spaces at night and on the weekends.

Pedestrian and Bicycle Accommodations

Pedestrian and bicycle accommodations and safety are paramount for a successful development in an urban area. The site has been designed to provide a raised pedestrian sidewalk with guardrail along the south side of the Ryder Street Driveway to separate the vehicular traffic from pedestrian traffic and provide sidewalk access to Ryder Street, Forest Street, and Massachusetts Avenue. In addition, the main pedestrian entrance to the building complex is separated from the main parking garage entrance and exit to reduce potential conflicts. The proposed raised sidewalk on the new bridge will also provide a safe pedestrian connection over the Mill Brook.

As the site is adjacent to the Minuteman Commuter Bikeway and shared bicycle lanes on Massachusetts Avenue, it is important that the development provide the adequate bicycle accommodations to support the use of bicycles for residents. The development will provide interior bicycle parking for 100 bicycles with repair and maintenance stations. Commuter access to the Minuteman Commuter Bikeway will be provided via Ryder Street, and local bicycle access to Massachusetts Avenue will be provided over the bridge and via Ryder Street.

Figure 6 presents the proposed site access for vehicles, pedestrians, and bicycles.

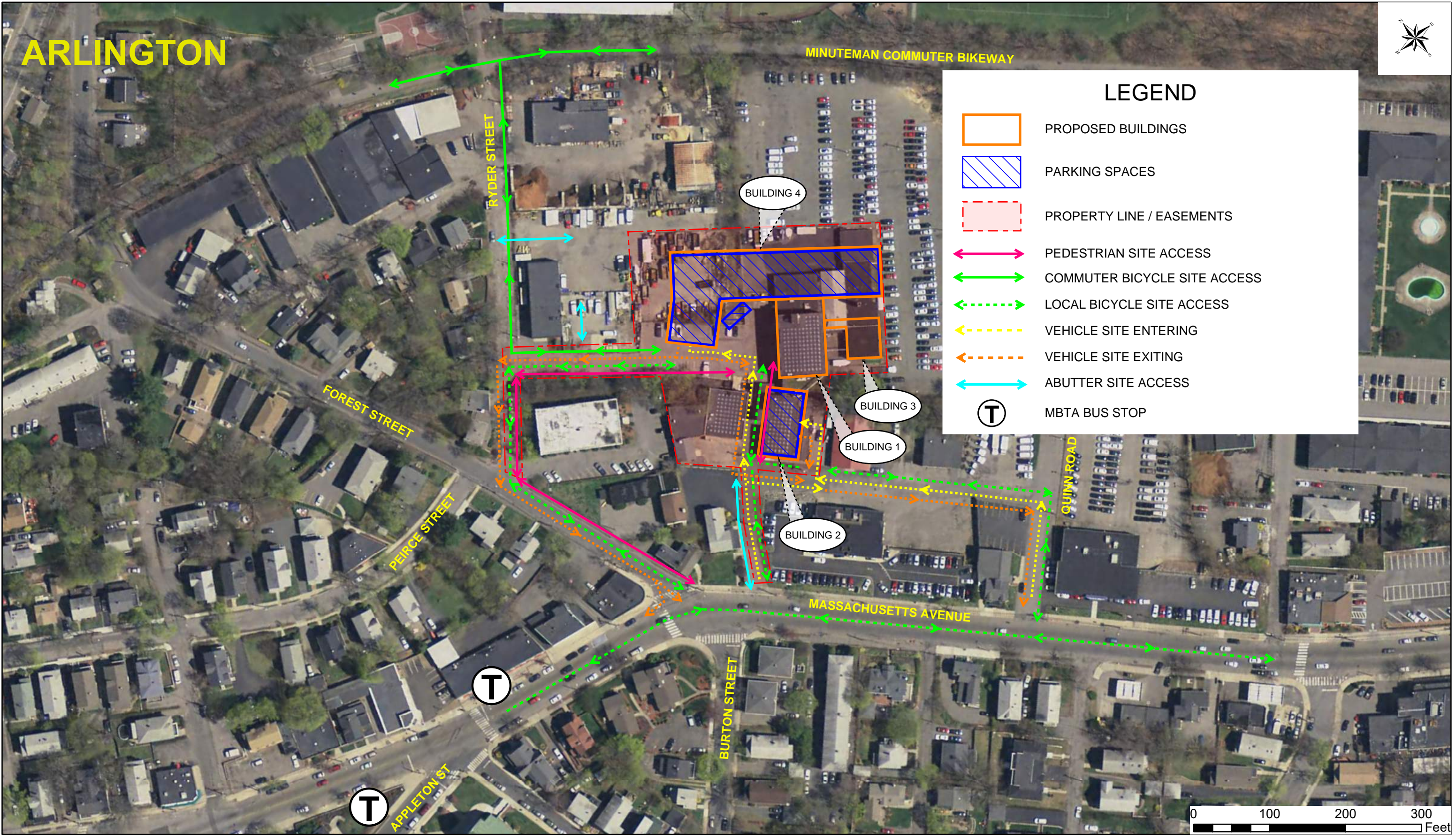


Figure 6: Site Access Diagram

1165R Mass Ave Apartments

Arlington, MA

Data Source: MassGIS

Nitsch Project #13990.

7.2 Trip Generation

As the existing Mill building will be eliminated, and replaced with the apartment complex, a trip generation credit must be applied to accurately determine the traffic impacts. Therefore, we calculated the trip generation for the existing use and the proposed use to obtain the net trip generation. Standard methodology for determining trip generation of a site is to use the ITE *Trip Generation, 10th Edition*² (“the ITE method”). For the existing Mill building we used Land Use Code (LUC) 710 – “General Office Building.” For the new apartment complex, we used LUC 221 – “Multifamily Housing (Mid-Rise)”, which includes apartments, townhouses, and condominiums located within the same building with at least three (3) other dwelling units and between three (3) and 10 levels (floors) of residence. Table 7 represents the total unadjusted peak hour trip generation.

Table 7 – Peak Hour Trip Generation

Period	Direction	ITE Office Trips (17,000 SF)	ITE Housing Trips (130 units)	Net Project Trips
Weekday Morning	Enter	21	9	-12
	Exit	4	38	34
	Total	25	47	22
Weekday Evening	Enter	4	46	42
	Exit	22	22	0
	Total	26	68	42

Table 7 shows that the weekday morning entering trips generated from the proposed development are less than the trips generated from the existing land use, resulting in a net negative projected trip number. To accurately represent the overall trip generation for the Innovation Park, it is acceptable to apply the negative number.

Mode Share

Based on the Town of Arlington 2015 Master Plan, in 2010, two-thirds of Arlington commuters worked in Boston or Cambridge, and approximately 70% of the workforce used cars, which was down from 75% in 2000. However, bicycle use nearly doubled to 2% from 2000 to 2010. With the heavy traffic and the high cost of owning a car, urban areas recently have been seeing a significant drop in automobile uses and an increase in use of public transit, bicycling, and walking. For this site in particular, with its close proximity to the Minuteman Commuter Bikeway and the MBTA Bus Route 79, which both have direct connections to Alewife Station, it is expected that the number of bicyclists and public transit users would be higher than average for the Town of Arlington, resulting in a lower number of vehicle (car) trips. For this assessment, we adjusted mode share and applied it to the net trip generation, as shown in Table 8.

² *Trip Generation*, Institute of Transportation Engineers, 10th Edition, 2016, Washington, D.C.

Table 8 – Mode Share for 1165R Mass Ave Apartments (Net Trip Generation)

Mode	2010 Distribution	Site Distribution	Weekday Morning			Weekday Evening		
			Enter	Exit	Total	Enter	Exit	Total
CAR	72%	67%	-8	23	15	28	0	28
TRANSIT	17%	19%	-2	6	4	8	0	8
BICYCLE	2%	5%	-1	2	1	2	0	2
WALK	3%	3%	0	1	1	1	0	1
TAXI	1%	1%	0	0	0	0	0	0
WORK FROM HOME	5%	5%	-1	2	1	2	0	2
Total	100%	100%	-12	34	22	42	0	42

To obtain the projected traffic volume that will be added to the roadway network, the appropriate vehicle occupancy rates should be applied to car-person trips shown in Table 8. However, as the net number of car trips are low, a vehicle occupancy rate of 1.0 persons per car was used to provide a conservative analysis.

7.3 Trip Distribution

We based the additional peak-hour trips to/from the site using the existing directional distribution based on our traffic counts as shown in Table 9.

Table 9 – Trip Distribution

Direction and Roadway	Percentage
To/From East on Massachusetts Avenue	60%
To/From West on Massachusetts Avenue	25%
To/From Southwest on Appleton Street	15%
Total	100%
Source: Figure 3: 2020 Existing Peak Hour Volumes	

7.4 Trip Assignment

We assigned the new peak-hour trips to the study intersections by multiplying the quantity of new trips from Table 8 by the Trip Distribution percentages shown in Figure 7. The resultant new trip assignment volumes are shown in Figure 8.

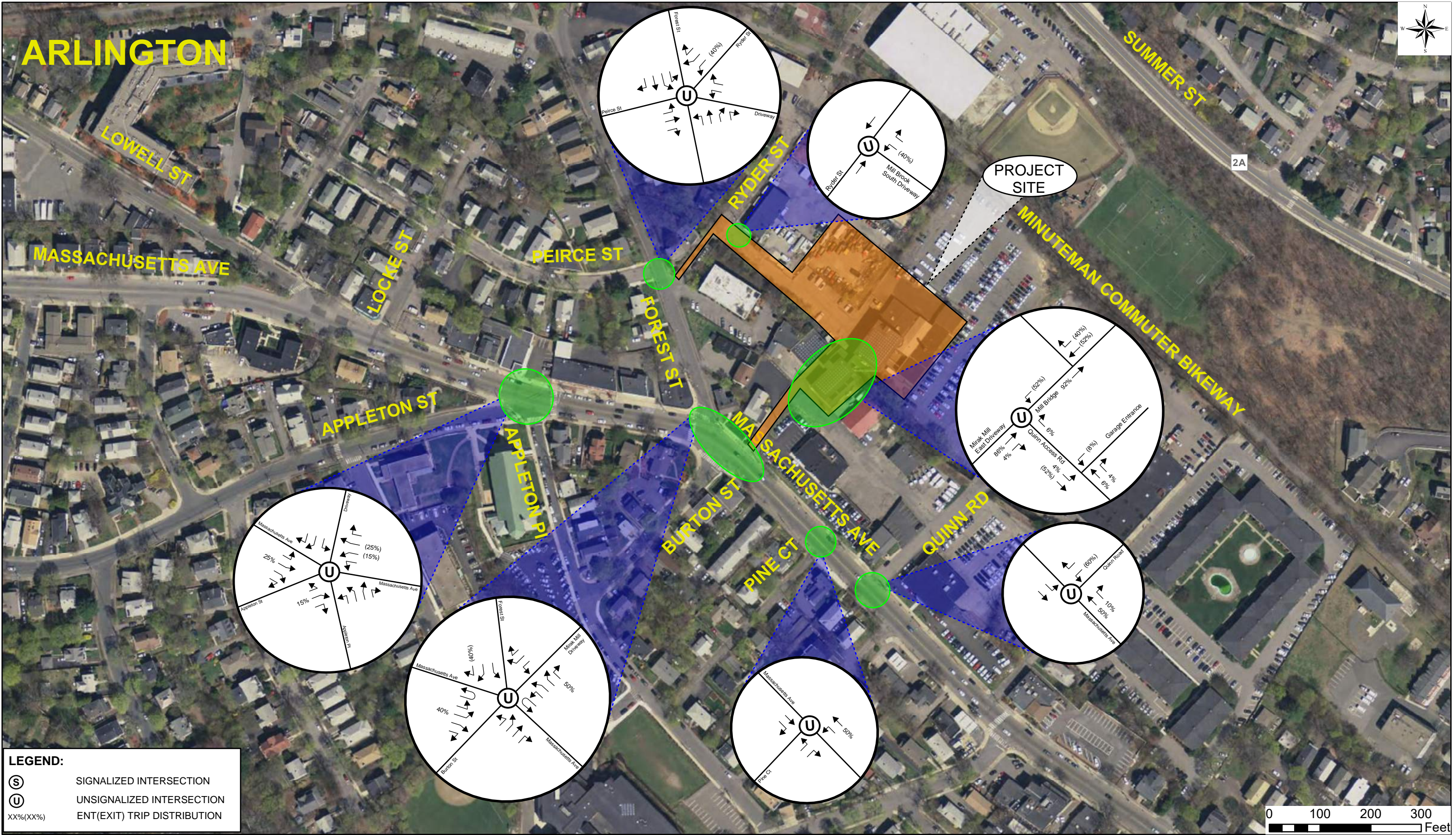


Figure 7: Trip Distribution
 1165R Mass Ave Apartments
 Arlington, MA
 Data Source: MassGIS
 Nitsch Project #13990.

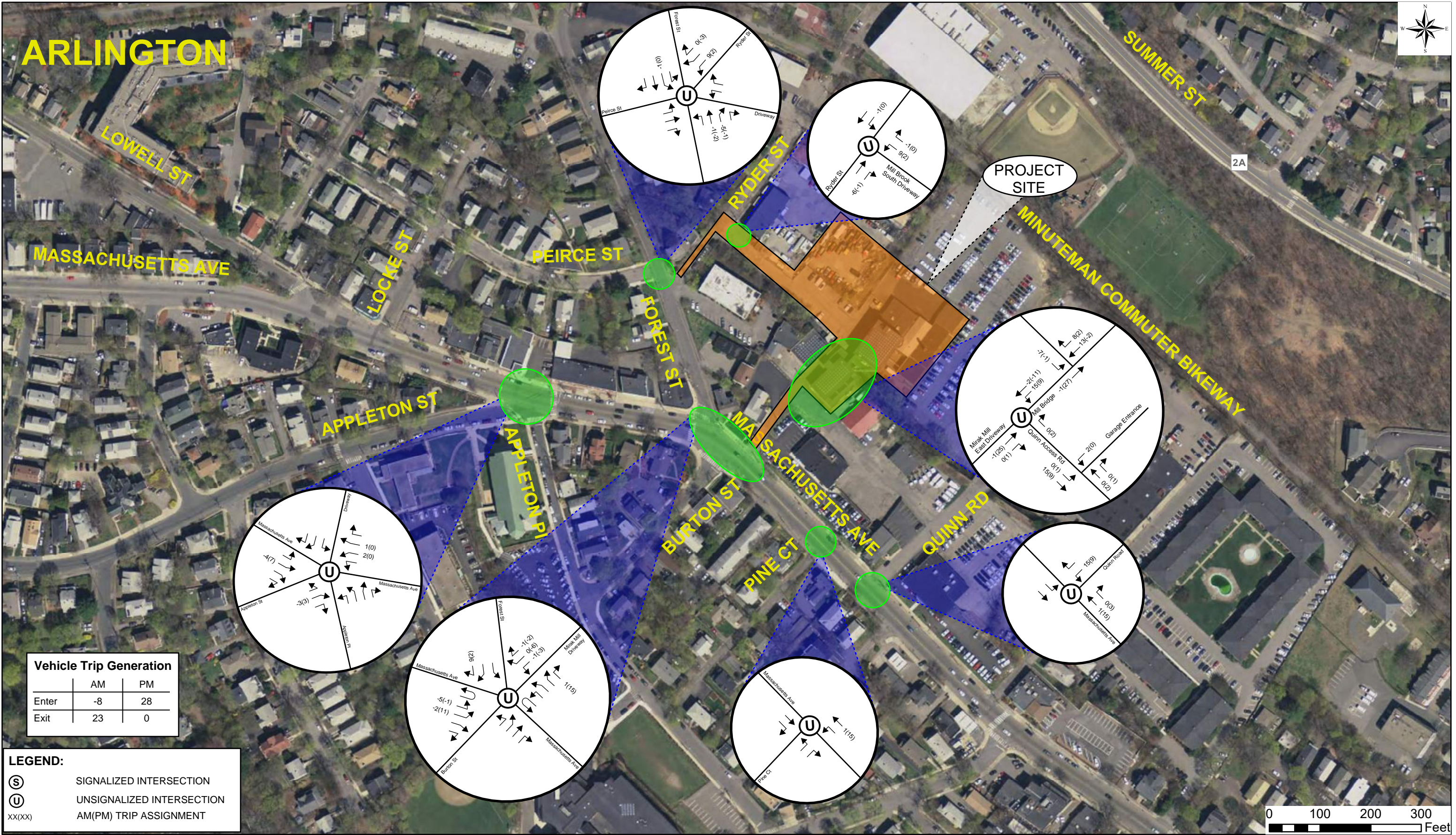


Figure 8: Net Trip Generation Assignment
1165R Mass Ave Apartments
Arlington, MA
Data Source: MassGIS
Nitsch Project #13990.

As noted in Section 7.1, vehicle circulation and access for the site will change with the use therefore changing the overall Mirak Innovation Park trip distribution. The overall Park trips at the driveways are compared in Table 10.

Table 10 – Driveway Volume Comparison

Driveway	Weekday Morning						Weekday Evening					
	2020 Existing			2025 Build			2020 Existing			2025 Build		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
West Driveway	28	2	30	27	2	29	8	23	31	34	12	46
Quinn Road	38	10	48	38	25	63	9	32	41	12	41	53
Ryder Street Driveway	17	3	20	10	11	21	4	10	14	3	12	15
Total	83	15	98	75	38	113	21	65	86	49	65	114

7.5 2025 Build Traffic Volumes

We added the Trip Assignment volumes from Figure 8 to 2025 No-Build conditions traffic volumes from Figure 5 to yield the 2025 Build conditions peak-hour traffic volumes, which are shown in Figure 9.

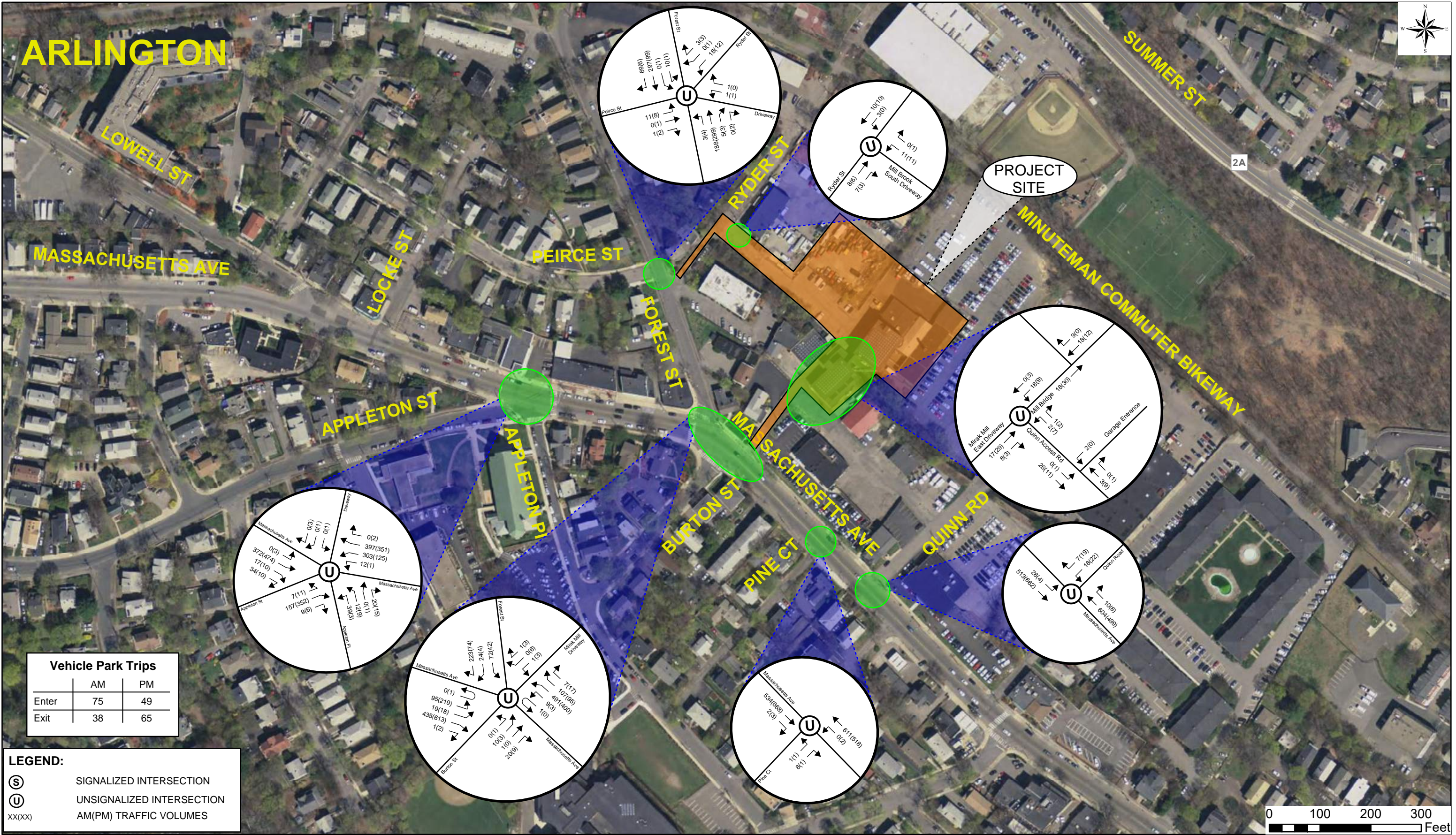


Figure 9: 2025 Build Peak Hour Volumes

1165R Mass Ave Apartments

Arlington, MA

Data Source: MassGIS
Nitsch Project #13990.

7.6 Parking Generation

To determine the required amount of parking needed for the proposed development, we compared the parking rates from the Town of Arlington Zoning Board of Appeals (ZBA), the Town of Arlington Master Plan³, the ITE *Parking General Manual*, 5th Edition, and the parking utilization study. For the ITE rates, we used Land Use Code 221 “Multifamily Housing (Mid-Rise).” Given the proposed apartment mix, it was determined the best means to calculate parking would be to use the number of bedrooms as the independent variable. From the data we collected from comparable developments in the Town, we found that peak parking utilization in the area is 0.55 spaces per bedroom (See Table 4 – Section 3.3). The parking rate comparisons are shown in Table 11 below.

Table 11 – Parking Requirement Comparisons

Type	# of Units	# of Bed	ZBA		Master Plan		ITE		Study	
			Rate/ unit	# of spaces	Rate/ unit	# of spaces	Rate/ bed	# of spaces	Rate/ bed	# of spaces
Studio	31	31	1	31	1.5	47	0.75	23	0.55	17
1-Bedroom	55	55	1.15	63	1.5	82	0.75	41	0.55	30
2-Bedroom	31	62	1.5	47	1.5	47	0.75	47	0.55	34
3-Bedroom	13	39	2	26	1.5	19	0.75	29	0.55	21
Total	130	187		167		195		140		103

Given that the most accurate means of estimating parking rates is from a comparable development study, we found that 103 spaces would be necessary to accommodate the 187 bedrooms. As noted in Section 3.3, the parking lots experience an average of 15% utilization reduction during weekday midday period and 2% utilization reduction during the Saturday mid-morning period. Based on these numbers and existing Workbar and Mill building parking data as described in Section 3.3, we calculated the parking spaces required for the proposed development. A summary of the future parking generation is shown in Table 12.

Table 12 – Future Parking Generation

Items		Quantity	
1	Number of proposed bedrooms	187 bedrooms	
2	Required apartment spaces (based on 0.55 spaces/bedroom)	103 spaces	
		Weekday Midday	Saturday Mid-morning
3	Anticipated occupied apartment spaces (based on study utilization)	87 spaces (85%)	101 spaces (98%)
4	Calculated required Workbar spaces (from Section 3.3)	24 spaces	1 space
5	Contracted required Workbar spaces	40 spaces	10 spaces
6	Total calculated required net spaces (rows 3 + 4)	111 spaces	102 spaces
7	Total contract required spaces net spaces (rows 3 + 5)	127 spaces	111 spaces

As shown, the anticipated number of parking spaces based on our site utilization assessment of comparable developments and the required number of spaces for the Workbar, the 136 parking spaces proposed will be enough to accommodate the demand.

³ The Town of Arlington Master Plan calculations for mode share are based on data from 2000 – 2010.



7.7 Construction Management Outline

During construction of the development, no long-term detours or lane closures at any of the study intersections or study roadways is anticipated.

During construction, pedestrian accessibility should be maintained. If necessary, temporary crosswalks and ramps should be provided. All pedestrian accommodations should adhere to Massachusetts Architectural Access Board (MAAB) and Americans with Disabilities Act (ADA) guidelines.

8 Traffic Operations Analysis

8.1 Evaluation Criteria

Traffic operations at intersections are evaluated using the performance measures of average vehicular delay, level of service (LOS), volume-to-capacity (v/c) ratio, and average and 95th percentile queue lengths.

LOS is a qualitative measure that describes operating conditions through letter designations, from A to F. It is defined for intersections in terms of average control delay per vehicle. LOS A indicates the most favorable condition, with minimum traffic delay. LOS F represents the worst condition where there is significant traffic delay. LOS D or better is typically considered desirable for peak-hour operation in urban and suburban settings. The delay designations for each LOS level differ slightly between signalized and unsignalized intersections due to driver expectations and behavior. Table 13 summarizes the LOS criteria for intersections as used in this analysis.

Table 13 – Intersection Level of Service Criteria

Level of Service	Average Control Delay (sec/veh)	
	Signalized	Unsignalized
A	0-10	0-10
B	>10-20	>10-15
C	>20-35	>15-25
D	>35-55	>25-35
E	>55-80	>35-50
F	>80	>50
Source: HCM 2000		

For signalized intersections, LOS is reported by lane group, by approach, and for the entire intersection. For unsignalized intersections, the analysis assumes that the traffic on the mainline is not affected by traffic on the side street. As such, an unsignalized intersection's LOS is generally reported for left turns on the mainline and all side street movements, and an overall intersection LOS is not determined.

The v/c ratio is a measure of congestion at an intersection approach. The capacity of a facility is the maximum hourly rate at which persons or vehicles reasonably can be expected to traverse a point or a uniform section of a lane or roadway under prevailing roadway, traffic, and control conditions. A v/c ratio below one indicates that the intersection approach has adequate capacity to serve the arriving traffic demand. A v/c ratio that approaches or exceeds 1.0 indicates traffic congestion or poor operating conditions. In that situation, vehicles arrive faster than they can be served, so queue lengths can theoretically grow indefinitely, which is the unstable condition.

Since arrival volumes fluctuate throughout the peak hour, queue lengths vary. The average (50th percentile) queue length represents the maximum back of queue on a typical cycle for a signalized intersection. Average queue lengths are not reported for unsignalized intersections. The 95th percentile queue, reported for both signalized and unsignalized intersections, occurs with 95th percentile traffic volumes, and its length commonly denotes the farthest extent of the vehicle queue.



8.2 Capacity Analyses

We performed capacity analyses for the study intersections under 2020 Existing conditions, 2025 No-Build conditions, and 2025 Build conditions during the weekday morning and evening peak hours using Trafficware's Synchro 10 software. Synchro uses, in part, the traffic operational analysis methodology of the Transportation Research Board's *Highway Capacity Manual* (HCM).⁴ We generated the results of the capacity analyses using Synchro's Percentile Delay Method for delay, v/c ratio, and queue lengths, supported by HCM 2000 methodology for unsignalized intersection analysis.

Synchro software has limitations preventing modeling of five-legged complex unsignalized intersections such as the intersection of Massachusetts Avenue at Appleton Street, Appleton Place, and the commercial driveway and the intersection of Massachusetts Avenue at Forest Street, Burton Street, and the Mirak Innovation Park West Driveway. As such, each of these intersections has been split into two nodes for the purposes of this analysis. We have recombined the delay output from the two nodes to present the average delay and LOS for entire movements through both nodes of the intersections. While the results of this method may not accurately represent the vehicle queuing, the intersection delay and operations represent the field observations.

Based on the HCM, the critical gap timing, which is crucial in determining the Percentile Delay Method, is related to speed. During the peak hour, it was observed that speeds were significantly lower than the posted speed limit due to heavy density, therefore the peak hour critical gaps along Massachusetts Avenue are less than the off-peak hours. As such, the critical gap timing input data for this Synchro capacity analysis has been calibrated to accurately represent the peak hour traffic conditions.

The Synchro output sheets for the capacity analyses are included in Appendix E.

8.2.1 2020 Existing Conditions Capacity Analysis


The first analysis evaluated traffic operations with 2020 existing traffic volumes under existing geometric conditions and signal timing/phasing. We derived peak hour factors (PHFs) and heavy vehicle percentages from the TMC data. We applied PHFs on an approach-by-approach basis, and we applied heavy vehicle percentages by lane group. Table 14 summarizes the capacity analysis results for the 2020 Existing conditions.

⁴ *Highway Capacity Manual 2000 (HCM 2000)*, Transportation Research Board, Washington, D.C., 2000.

Table 14 – Capacity Analysis Summary: 2020 Existing Conditions

Location	Direction / Movement ^a	Weekday Morning Peak Hour				Weekday Evening Peak Hour			
		v/c Ratio	Delay ^b	LOS	95th Queue ^c	v/c Ratio	Delay ^b	LOS	95th Queue ^c
Massachusetts Avenue and Appleton Street/ Appleton Place/ Commercial Driveway*	Mass Ave EB - LTRR	0.00	0.1	A	0	0.00	0.1	A	0
	Mass Ave WB - LLTR	0.40	9.4	A	49	0.12	3.5	A	10
	Appleton PI NB - LLTR	0.28	22.8	C	28	0.04	24.1	C	3
	Driveway SB - LLRR	0.01	47.5	E	1	0.07	35.3	E	6
	Appleton St NEB - LLRR	0.50	43.7	E	66	0.40	29.0	D	49
Massachusetts Avenue and Forest Street/ Burton Street/ West Driveway*	Mass Ave EB - LLTR	0.12	3.7	A	10	0.22	5.0	A	21
	Mass Ave WB - LTRR	0.38	0.3	A	0	0.30	0.1	A	0
	Burton St NB - LLTR	0.16	16.2	C	14	0.06	17.2	C	5
	Forest St SB - LLRR	0.88	57.3	F	214	0.40	23.2	C	47
	West Dwy SWB - LTRR	0.02	13.8	B	1	0.06	12.0	B	5
Massachusetts Avenue and Pine Court	Mass Ave EB - TR	0.34	0.0	A	0	0.39	0.0	A	0
	Mass Ave WB - LT	0.00	0.0	A	0	0.00	0.1	A	0
	Pine Ct NB - LR	0.03	11.3	B	2	0.01	13.1	B	1
Massachusetts Avenue and Quinn Road	Mass Ave EB - TL	0.04	1.0	A	3	0.00	0.1	A	0
	Mass Ave WB - TR	0.37	0.0	A	0	0.29	0.0	A	0
	Quinn Rd SB - LR	0.03	12.8	B	3	0.13	13.3	B	11
West Driveway and Quinn Access Road	West Dr WB - LR	0.00	8.8	A	0	0.02	8.8	A	2
	Quinn Access Rd NB - TR	0.03	0.0	A	0	0.01	0.0	A	0
	Quinn Access Rd SB - LT	0.01	5.3	A	1	0.00	0.0	A	0
Forest Street and Ryder Street/Peirce Street	Peirce St EB - LTR	0.05	14.5	B	4	0.02	11.6	B	2
	Ryder St WB - LTR	0.04	14.0	B	3	0.04	11.6	B	3
	Forest St NB - LTR	0.00	0.2	A	0	0.00	0.1	A	0
	Forest St SB - LTR	0.01	0.3	A	1	0.00	0.4	A	0
Ryder Street and Ryder Street Driveway	Ryder St Dwy WB - LR	0.01	9.2	A	1	0.02	8.7	A	1
	Ryder St NB - TR	0.02	0.0	A	0	0.01	0.0	A	0
	Ryder St SB - LT	0.00	2.3	A	0	0.00	0.0	A	0
^a Direction: NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound; NEB = Northeast-bound, NWB = Northwest-bound, SEB = Southeast-bound, SWB = Southwest-bound Movement: L = Left-turn, T = Through movement, R = Right-turn, LL = Hard Left + Bear Left, RR = Bear Right + Hard Right ^b Average vehicle delay (seconds) ^c 95th percentile queue length in feet, based upon average vehicle length of 25 feet # 95th percentile volume exceeds capacity; queue may be longer; queue shown is maximum after two cycles * Delay and LOS are based on recombination of data from two nodes of a single intersection, v/c ratios and 95th percentile queues based on Synchro output for initial approach									

As shown from Table 14, most approaches to the intersections are expected to operate at LOS A or B during both peak hours, with operational deficiencies (lane groups operating at LOS E or F) at only two (2) intersections:

- 
- Massachusetts Avenue and Appleton Street/Appleton Place/Commercial Driveway; and
 - Massachusetts Avenue and Forest Street/Burton Street/Mirak Innovation Park West Driveway.

At the intersection of Massachusetts Avenue and Appleton Street/Appleton Place/Commercial Driveway, the stop-controlled Appleton Street approach operates at LOS E during the weekday morning peak hour and LOS D during the weekday evening peak hour. The southbound driveway operates at LOS E during both peak hours due to Synchro limitations, but with driveway volumes less than five (5) vehicles per hour, the approach is not as operationally deficient as the results represent. All other movements operate at LOS D or better in both peak hours.

At the intersection of Massachusetts Avenue and Forest Street/Burton Street/Mirak Innovation Park West Driveway, the stop-controlled Forest Street southbound approach operates at LOS F during the weekday morning peak hour and LOS C during the evening peak hour. Although the critical gap for the southbound approach was adjusted to represent the field condition more accurately, Synchro limitations still represent a delay significantly higher than what was observed during the morning peak hour. All other movements operate at LOS D or better in both peak hours.


8.2.2 2020 No-Build Conditions Capacity Analysis

Under future No-Build conditions, we kept lane geometry and traffic control the same as existing. For all intersections, we applied the 2025 No-Build traffic volumes with the same heavy vehicle percentages and PHFs as existing. Table 15 summarizes the analysis results for 2025 No-Build conditions.

Table 15 – Capacity Analysis Summary: 2025 No-Build Conditions

Location	Direction / Movement ^a	Weekday Morning Peak Hour				Weekday Evening Peak Hour			
		v/c Ratio	Delay ^b	LOS	95th Queue ^c	v/c Ratio	Delay ^b	LOS	95th Queue ^c
Massachusetts Avenue and Appleton Street/ Appleton Place/ Commercial Driveway*	Mass Ave EB - LTRR	0.00	0.1	A	0	0.00	0.1	A	0
	Mass Ave WB - LLTR	0.46	11.0	B	62	0.14	3.8	A	12
	Appleton PI NB - LLTR	0.32	25.8	D	34	0.04	28.0	D	3
	Driveway SB - LLRR	0.01	59.0	F	1	0.04	22.4	C	3
	Appleton St NEB - LLRR	0.59	54.3	F	91	0.45	33.9	D	60
Massachusetts Avenue and Forest Street/ Burton Street/ West Driveway*	Mass Ave EB - LLTR	0.14	4.2	A	12	0.25	5.8	A	25
	Mass Ave WB - LTRR	0.42	0.3	A	0	0.01	0.1	A	1
	Burton St NB - LLTR	0.20	18.3	C	19	0.08	19.0	C	6
	Forest St SB - LLRR	1.11	120.5	F	344	0.52	31.2	D	70
	West Dwy SWB - LTRR	0.03	17.8	C	2	0.08	12.8	B	7
Massachusetts Avenue and Pine Court	Mass Ave EB - TR	0.37	0.0	A	0	0.43	0.0	A	0
	Mass Ave WB - LT	0.00	0.0	A	0	0.00	0.1	A	0
	Pine Ct NB - LR	0.03	11.7	B	3	0.01	14.0	B	1
Massachusetts Avenue and Quinn Road	Mass Ave EB - TL	0.04	1.0	A	3	0.01	0.1	A	0
	Mass Ave WB - TR	0.41	0.0	A	0	0.32	0.0	A	0
	Quinn Rd SB - LR	0.04	13.6	B	3	0.15	14.2	B	12
West Driveway and Quinn Access Road	West Dr WB - LR	0.00	8.8	A	0	0.02	8.7	A	1
	Quinn Access Rd NB - TR	0.03	0.0	A	0	0.01	0.0	A	0
	Quinn Access Rd SB - LT	0.01	5.3	A	1	0.00	0.0	A	0
Forest Street and Ryder Street/Peirce Street	Peirce St EB - LTR	0.06	15.5	C	5	0.03	12.2	B	2
	Ryder St WB - LTR	0.04	15.0	B	4	0.05	12.1	B	4
	Forest St NB - LTR	0.00	0.2	A	0	0.00	0.1	A	0
	Forest St SB - LTR	0.01	0.3	A	1	0.01	0.5	A	0
Ryder Street and Ryder Street Driveway	Ryder St Dwy WB - LR	0.01	9.2	A	1	0.02	8.8	A	1
	Ryder St NB - TR	0.02	0.0	A	0	0.01	0.0	A	0
	Ryder St SB - LT	0.00	2.2	A	0	0.00	0.0	A	0
^a Direction: NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound; NEB = Northeast-bound, NWB = Northwest-bound, SEB = Southeast-bound, SWB = Southwest-bound Movement: L = Left-turn, T = Through movement, R = Right-turn, LL = Hard Left + Bear Left, RR = Bear Right + Hard Right ^b Average vehicle delay (seconds) ^c 95th percentile queue length in feet, based upon average vehicle length of 25 feet # 95th percentile volume exceeds capacity; queue may be longer; queue shown is maximum after two cycles * Delay and LOS are based on recombination of data from two nodes of a single intersection, v/c ratios and 95th percentile queues based on Synchro output for initial approach									

Under 2025 No-Build traffic conditions, most of the intersection operations are expected to remain the same as under 2020 Existing conditions with only two significant changes in approach delays and levels of service.



At the intersection of Massachusetts Avenue and Appleton Street/Appleton Place/Commercial Driveway, the Appleton Street approach and the southbound driveway approach are both expected to decline during the weekday morning peak hour from LOS E to LOS F. For the Appleton Street approach, the average delay increases by about 10 seconds from 43.7 seconds to 54.3 seconds. During the weekday evening peak hour, the southbound driveway approach improves from LOS E to LOS C. All other approaches remain at LOS D or better, with slight increases in average delays and v/c ratios due to the increased traffic volumes.

8.2.3 2025 Build Conditions Capacity Analysis

We performed capacity analyses for the proposed build conditions that account for the change in site use from the existing office building to the proposed apartment complex. Under these future 2025 Build conditions, we kept lane geometry and traffic control the same at all study intersections.


Table 16 summarizes the analysis results for the 2025 Build conditions.

Table 16 – Capacity Analysis Summary: 2025 Build Conditions

Location	Direction / Movement ^a	Weekday Morning Peak Hour				Weekday Evening Peak Hour			
		v/c Ratio	Delay ^b	LOS	95th Queue ^c	v/c Ratio	Delay ^b	LOS	95th Queue ^c
Massachusetts Avenue and Appleton Street/ Appleton Place/ Commercial Driveway*	Mass Ave EB - LTRR	0.00	0.1	A	0	0.00	0.1	A	0
	Mass Ave WB - LLTR	0.46	11.0	B	62	0.14	3.8	A	12
	Appleton PI NB - LLTR	0.32	25.8	D	34	0.04	28.8	D	3
	Driveway SB - LLRR	0.01	58.5	F	1	0.04	23.1	C	3
	Appleton St NEB - LLRR	0.59	53.7	F	89	0.46	34.7	D	61
Massachusetts Avenue and Forest Street/ Burton Street/ West Driveway*	Mass Ave EB - LLTR	0.13	4.0	A	12	0.25	6.1	A	25
	Mass Ave WB - LTRR	0.42	0.3	A	0	0.34	0.1	A	0
	Burton St NB - LLTR	0.20	18.1	C	18	0.08	19.4	C	6
	Forest St SB - LLRR	1.12	121.6	F	354	0.53	31.6	D	72
	West Dwy SWB - LTRR	0.03	17.8	C	2	0.08	13.0	B	7
Massachusetts Avenue and Pine Court	Mass Ave EB - TR	0.37	0.0	A	0	0.43	0.0	A	0
	Mass Ave WB - LT	0.00	0.0	A	0	0.00	0.1	A	0
	Pine Ct NB - LR	0.03	11.7	B	3	0.01	14.1	B	1
Massachusetts Avenue and Quinn Road	Mass Ave EB - TL	0.04	1.0	A	3	0.01	0.1	A	0
	Mass Ave WB - TR	0.41	0.0	A	0	0.33	0.0	A	0
	Quinn Rd SB - LR	0.09	13.8	B	7	0.17	16.0	C	19
West Driveway and Quinn Access Road	West Dr WB - LR	0.00	9.1	A	0	0.02	9.0	A	1
	Quinn Access Rd NB - TR	0.02	0.0	A	0	0.03	0.0	A	0
	Quinn Access Rd SB - LT	0.03	7.6	A	3	0.01	5.5	A	1
Forest Street and Ryder Street/Peirce Street	Peirce St EB - LTR	0.06	15.4	C	5	0.02	12.1	B	2
	Ryder St WB - LTR	0.08	16.0	C	7	0.05	12.4	B	4
	Forest St NB - LTR	0.00	0.2	A	0	0.00	0.1	A	0
	Forest St SB - LTR	0.01	0.3	A	1	0.01	0.5	A	0
Ryder Street and Ryder Street Driveway	Ryder St Dwy WB - LR	0.03	9.4	A	3	0.02	8.8	A	2
	Ryder St NB - TR	0.01	0.0	A	0	0.01	0.1	A	0
	Ryder St SB - LT	0.00	1.9	A	0	0.01	0.0	A	0

^a Direction: NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound;
NEB = Northeast-bound, NWB = Northwest-bound, SEB = Southeast-bound, SWB = Southwest-bound
Movement: L = Left-turn, T = Through movement, R = Right-turn, LL = Hard Left + Bear Left, RR = Bear Right + Hard Right
^b Average vehicle delay (seconds)
^c 95th percentile queue length in feet, based upon average vehicle length of 25 feet
95th percentile volume exceeds capacity; queue may be longer; queue shown is maximum after two cycles
* Delay and LOS are based on recombination of data from two nodes of a single intersection, v/c ratios and 95th percentile queues based on Synchro output for initial approach

Under Build conditions, most of the intersections are expected to operate the same as under No-Build conditions with few minor changes.



At the intersection of Massachusetts Avenue and Appleton Street/Appleton Place/Commercial Driveway, the Appleton Street and southbound driveway approaches are expected to remain at LOS F during the weekday morning peak hour. However, they both experience a slight decrease in average delay of less than a second. All other movements are expected to remain at LOS D or better.

At the intersection of Massachusetts Avenue and Forest Street/Burton Street/Mirak Innovation Park West Driveway, the Forest Street approach is expected to remain at LOS F during the weekday morning peak hour with delay increased by 1.1 seconds. All other movements are expected to remain at LOS D or better.

9 Transportation Demand Management

The Proponent is committed to implementing Transportation Demand Management (TDM) measures to minimize automobile usage and Project-related traffic impacts. TDM will be facilitated by the nature of the Project, which does not generate significant peak hour trips, and its proximity to numerous public transit alternatives and bicycle facilities.

On-site management will keep a supply of transit information (schedules, maps, and fare information) to be made available to the residents of the development. The Proponent will work with the Town to develop a TDM program appropriate to the Project and consistent with its level of impact.

The Proponent is prepared to take advantage of good transit and bicycle access in marketing the site to future residents by working with them to implement the following TDM measures to encourage the use of non-vehicular modes of travel.

The TDM measures for the Project may include, but are not limited to, the following:

- **Orientation Packets:** The Proponent will provide orientation packets to new residents and tenants containing information on site access and circulation; and available transportation choices, including transit routes/schedules and nearby vehicle sharing locations and bicycle facilities. On-site management will work with residents and tenants as they move in to help facilitate transportation for new arrivals.
- **Bicycle Accommodation:** The Proponent will provide interior and exterior bicycle storage in secure, sheltered areas for residents, as well as repair and maintenance stations. Subject to necessary approvals, public-use bicycle racks for visitors will be placed near building entrances and must adhere to the Town of Arlington's regulations.
- **Electric Vehicle Charging:** The Proponent will explore the feasibility of providing electric vehicle charging stations within the garages.
- **Shared-Car Services:** The Proponent will explore the feasibility of providing a shared car service (e.g., Zip Car) on-site to help reduce the need for residents to own a vehicle.
- **Transportation Coordinator:** The Proponent will designate a transportation coordinator to oversee transportation issues including parking, service and loading, and deliveries and will work with residents as they move in to raise awareness of public transportation, bicycling, and walking opportunities.
- **Project Web Site:** The web site will include transportation-related information for residents, workers, and visitors.
- **Transportation Monitoring Program:** The Proponent will implement a transportation monitoring program that will periodically monitor the TDM program through a Town of Arlington survey. The building TDM program shall be revised as necessary to update the elements as new trip reduction measures become available and/or certain programs become obsolete or ineffective.



10 Conclusions

Nitsch Engineering has prepared this Traffic Impact Report (TIR) for the Project in Arlington Massachusetts. We studied seven (7) unsignalized intersections to establish the impact the removal of the existing Mirak Mill office building and the construction of a 130-unit apartment complex would have on intersection traffic operations.

The crash data over the last three years available from MassDOT indicate that the intersection of Forest Street at Ryder Street/Peirce Street has a crash rate nearly three (3) times the average District 4 and Statewide crash rates. The intersection of Massachusetts Avenue and Appleton Street/Appleton Place/Commercial Driveway and the intersection of Massachusetts Avenue and Forest Street/Burton Street/Mirak Innovation Park West Driveway are comparable to the District 4 and Statewide averages. The other study intersections all have crash rates well below those averages.

The traffic signal warrant analysis indicates that a traffic signal may be justified under current traffic conditions at the unsignalized intersection of Massachusetts Avenue and Forest Street/Burton Street/Mirak Innovation Park West Driveway, based on the Eight-Hour Vehicular Volume, Four-Hour Vehicular Volume, and Peak Hour warrants. However, as this is an existing condition upon which the project will have minimal effect, it does not require that the Proponent install a new traffic signal.

For future conditions, we projected some of the existing traffic volumes within the study area over a 5-year period to the horizon year 2025 using an annual growth rate of 2.0%, based on expected regional growth.

We estimated the net quantity of vehicle trips the proposed apartment complex would generate based on Institute of Transportation Engineers (ITE) *Trip Generation, 10th Edition* criteria. We applied an appropriate travel mode share based on the Town of Arlington 2015 Master Plan, calibrated for proximity to the Minuteman Commuter Bikeway and the MBTA bus stop, and we distributed the additional vehicle trips to the roadway network using existing travel patterns and site access modifications.

We performed a vehicle capacity analysis to compare the weekday morning and evening peak hours of the 2020 Existing conditions, 2025 No-Build conditions, and 2025 Build conditions for each of the seven (7) study intersections. Under existing conditions, our analysis indicates operational deficiencies at the following two (2) intersections:

- Massachusetts Avenue at Appleton Street/Appleton Place/Commercial Driveway; and
- Massachusetts Avenue and Forest Street/Burton Street/Mirak Innovation Park West Driveway.

Traffic operations are calculated to degrade from the 2020 Existing to 2025 No-Build conditions at some of the stop-controlled approaches to these intersections. However, the change in traffic operations from 2025 No-Build to 2025 Build conditions are so minor that they are considered negligible by current engineering standards. Therefore, as our analysis indicates that there is not a significant degradation in delay as a result of the Project, we do not recommend any additional changes to the roadway network.



Traffic Impact Report *Appendix*

1165R Mass Ave Apartments
1165R Massachusetts Avenue
Arlington, MA

July 6, 2020

Prepared for:

1165R Mass MA Property LLC
c/o Spaulding & Slye Investments
One Post Office Square, 28th Floor
Boston, MA 02109

Submitted by:

Nitsch Engineering
2 Center Plaza, Suite 430
Boston, MA 02108

Nitsch Engineering Project #13990.



Appendix A: Traffic Count Data



Location Map: 207450 Arlington, MA

Precision Data Industries, LLC 46 Morton Street, Framingham, MA 01702 ph: 508-875-0100 email: datarequests@pdillc.com



Client: Nitsch Engineering	Engineer: B. Zimolka	Site Code: TBD	Date: Tues 2/4-Wed 2/5/20	PDI Job # 207450	City, State: Arlington, MA
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Massachusetts Avenue
west of Pine Court
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File # 207450 ATR A

Count Date: Tuesday, February 4, 2020
Direction: EB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	5	2	0	7
12:15 AM	6	1	0	7
12:30 AM	0	2	2	4
12:45 AM	4	2	0	6
1:00 AM	1	1	0	2
1:15 AM	4	0	0	4
1:30 AM	0	0	0	0
1:45 AM	1	1	0	2
2:00 AM	1	0	0	1
2:15 AM	2	0	0	2
2:30 AM	0	0	0	0
2:45 AM	1	1	0	2
3:00 AM	0	0	0	0
3:15 AM	0	0	0	0
3:30 AM	2	0	0	2
3:45 AM	3	1	1	5
4:00 AM	1	0	0	1
4:15 AM	3	0	1	4
4:30 AM	9	1	0	10
4:45 AM	4	1	0	5
5:00 AM	17	1	0	18
5:15 AM	16	3	0	19
5:30 AM	15	1	0	16
5:45 AM	17	5	0	22
6:00 AM	30	2	0	32
6:15 AM	55	3	2	60
6:30 AM	82	4	2	88
6:45 AM	102	6	0	108
7:00 AM	101	11	2	114
7:15 AM	110	4	2	116
7:30 AM	110	11	1	122
7:45 AM	131	10	1	142
8:00 AM	102	7	0	109
8:15 AM	99	9	1	109
8:30 AM	116	6	0	122
8:45 AM	113	7	0	120
9:00 AM	90	8	0	98
9:15 AM	116	5	0	121
9:30 AM	87	6	1	94
9:45 AM	106	5	0	111
10:00 AM	89	8	0	97
10:15 AM	73	5	1	79
10:30 AM	108	14	1	123
10:45 AM	90	8	0	98
11:00 AM	84	4	0	88
11:15 AM	97	9	0	106
11:30 AM	85	7	0	92
11:45 AM	89	6	1	96

AM Total	2377	188	19	2584
Percentage	91.99%	7.28%	0.74%	
AM Peak	7:15 AM	7:30 AM	6:15 AM	7:00 AM
Volume	453	37	6	494

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	119	6	0	125
12:15 PM	111	6	0	117
12:30 PM	135	6	0	141
12:45 PM	45	6	0	51
1:00 PM	1	1	0	2
1:15 PM	2	0	0	2
1:30 PM	1	4	0	5
1:45 PM	0	2	0	2
2:00 PM	0	2	0	2
2:15 PM	0	3	0	3
2:30 PM	15	5	0	20
2:45 PM	105	4	0	109
3:00 PM	114	2	1	117
3:15 PM	133	2	0	135
3:30 PM	123	6	0	129
3:45 PM	125	2	1	128
4:00 PM	124	4	0	128
4:15 PM	118	3	0	121
4:30 PM	128	1	1	130
4:45 PM	144	3	0	147
5:00 PM	124	3	0	127
5:15 PM	148	3	0	151
5:30 PM	160	2	0	162
5:45 PM	143	2	0	145
6:00 PM	131	3	0	134
6:15 PM	133	2	0	135
6:30 PM	138	1	0	139
6:45 PM	115	4	0	119
7:00 PM	100	4	0	104
7:15 PM	84	1	0	85
7:30 PM	75	3	0	78
7:45 PM	61	1	0	62
8:00 PM	66	4	0	70
8:15 PM	52	1	0	53
8:30 PM	59	2	0	61
8:45 PM	44	4	0	48
9:00 PM	44	3	0	47
9:15 PM	40	4	0	44
9:30 PM	30	3	0	33
9:45 PM	24	0	0	24
10:00 PM	23	4	0	27
10:15 PM	26	2	0	28
10:30 PM	20	1	0	21
10:45 PM	14	2	0	16
11:00 PM	9	2	0	11
11:15 PM	14	1	0	15
11:30 PM	6	3	0	9
11:45 PM	6	2	0	8

PM Total	3432	135	3	3570
Percentage	96.13%	3.78%	0.08%	
PM Peak	5:15 PM	12:00 PM	3:00 PM	5:15 PM
Volume	582	24	2	592

Day Total	5809	323	22	6154
Percentage	94.39%	5.25%	486 of 820	36%

Massachusetts Avenue
west of Pine Court
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File # 207450 ATR A

Count Date: Wednesday, February 5, 2020
Direction: EB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	2	0	2
12:15 AM	7	1	0	8
12:30 AM	2	2	0	4
12:45 AM	3	2	0	5
1:00 AM	2	1	0	3
1:15 AM	2	0	0	2
1:30 AM	0	0	0	0
1:45 AM	1	0	0	1
2:00 AM	1	0	0	1
2:15 AM	1	0	0	1
2:30 AM	1	0	0	1
2:45 AM	1	0	0	1
3:00 AM	1	0	0	1
3:15 AM	0	0	0	0
3:30 AM	2	2	0	4
3:45 AM	1	0	1	2
4:00 AM	2	0	0	2
4:15 AM	7	0	0	7
4:30 AM	13	1	0	14
4:45 AM	2	1	0	3
5:00 AM	9	3	0	12
5:15 AM	16	2	1	19
5:30 AM	14	1	0	15
5:45 AM	16	3	0	19
6:00 AM	19	3	0	22
6:15 AM	55	2	0	57
6:30 AM	73	6	0	79
6:45 AM	96	18	0	114
7:00 AM	111	9	1	121
7:15 AM	114	5	0	119
7:30 AM	113	4	0	117
7:45 AM	113	4	1	118
8:00 AM	98	5	1	104
8:15 AM	130	4	0	134
8:30 AM	128	4	1	133
8:45 AM	104	6	1	111
9:00 AM	109	2	0	111
9:15 AM	116	8	1	125
9:30 AM	102	6	0	108
9:45 AM	101	8	0	109
10:00 AM	99	5	2	106
10:15 AM	71	7	0	78
10:30 AM	102	5	0	107
10:45 AM	99	4	0	103
11:00 AM	77	5	0	82
11:15 AM	106	3	0	109
11:30 AM	121	4	0	125
11:45 AM	103	5	0	108

AM Total	2464	153	10	2627
Percentage	93.80%	5.82%	0.38%	
AM Peak	8:15 AM	6:30 AM	7:45 AM	7:45 AM
Volume	471	38	3	489

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	107	5	0	112
12:15 PM	123	5	1	129
12:30 PM	128	5	0	133
12:45 PM	116	5	0	121
1:00 PM	102	7	0	109
1:15 PM	103	6	1	110
1:30 PM	100	9	0	109
1:45 PM	106	4	0	110
2:00 PM	90	6	0	96
2:15 PM	103	7	0	110
2:30 PM	95	5	0	100
2:45 PM	103	7	0	110
3:00 PM	128	7	0	135
3:15 PM	134	8	0	142
3:30 PM	106	7	0	113
3:45 PM	118	5	0	123
4:00 PM	119	9	2	130
4:15 PM	129	6	0	135
4:30 PM	129	6	0	135
4:45 PM	124	2	0	126
5:00 PM	150	3	0	153
5:15 PM	123	2	0	125
5:30 PM	155	2	0	157
5:45 PM	148	2	0	150
6:00 PM	146	4	0	150
6:15 PM	126	5	0	131
6:30 PM	111	3	0	114
6:45 PM	113	7	0	120
7:00 PM	93	3	0	96
7:15 PM	99	1	0	100
7:30 PM	71	5	0	76
7:45 PM	56	2	0	58
8:00 PM	73	4	0	77
8:15 PM	60	3	0	63
8:30 PM	65	1	0	66
8:45 PM	53	4	0	57
9:00 PM	48	2	0	50
9:15 PM	33	2	0	35
9:30 PM	22	4	0	26
9:45 PM	24	1	0	25
10:00 PM	18	4	0	22
10:15 PM	24	1	0	25
10:30 PM	13	0	0	13
10:45 PM	17	4	0	21
11:00 PM	10	2	0	12
11:15 PM	5	1	0	6
11:30 PM	8	3	0	11
11:45 PM	3	1	1	5

PM Total	4130	197	5	4332
Percentage	95.34%	4.55%	0.12%	
PM Peak	5:00 PM	2:45 PM	3:15 PM	5:30 PM
Volume	576	29	2	588

Day Total	6594	350	15	6959
Percentage	94.75%	5.03%	487 of 820	2.22%

Massachusetts Avenue
west of Pine Court
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File # 207450 ATR A

Count Date: Tuesday, February 4, 2020
Direction: WB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	6	2	0	8
12:15 AM	7	1	0	8
12:30 AM	3	1	0	4
12:45 AM	2	2	0	4
1:00 AM	2	1	0	3
1:15 AM	0	0	1	1
1:30 AM	0	2	0	2
1:45 AM	0	0	0	0
2:00 AM	2	0	0	2
2:15 AM	0	0	0	0
2:30 AM	1	0	0	1
2:45 AM	0	0	0	0
3:00 AM	0	0	0	0
3:15 AM	1	0	0	1
3:30 AM	1	0	1	2
3:45 AM	1	0	0	1
4:00 AM	1	0	0	1
4:15 AM	3	0	0	3
4:30 AM	7	1	0	8
4:45 AM	9	0	0	9
5:00 AM	10	4	0	14
5:15 AM	17	3	0	20
5:30 AM	22	1	1	24
5:45 AM	28	3	0	31
6:00 AM	29	1	0	30
6:15 AM	32	5	3	40
6:30 AM	38	1	0	39
6:45 AM	69	6	0	75
7:00 AM	85	11	0	96
7:15 AM	74	7	0	81
7:30 AM	130	7	0	137
7:45 AM	139	5	1	145
8:00 AM	145	7	0	152
8:15 AM	100	3	1	104
8:30 AM	97	9	0	106
8:45 AM	124	7	1	132
9:00 AM	95	8	0	103
9:15 AM	78	8	1	87
9:30 AM	91	3	0	94
9:45 AM	98	10	1	109
10:00 AM	88	3	1	92
10:15 AM	90	7	0	97
10:30 AM	75	4	0	79
10:45 AM	90	11	0	101
11:00 AM	93	10	1	104
11:15 AM	82	4	1	87
11:30 AM	107	3	0	110
11:45 AM	106	5	2	113

AM Total	2278	166	16	2460
Percentage	92.60%	6.75%	0.65%	
AM Peak	7:30 AM	8:30 AM	5:30 AM	7:30 AM
Volume	514	32	4	538

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	112	6	1	119
12:15 PM	106	5	0	111
12:30 PM	103	7	0	110
12:45 PM	93	6	0	99
1:00 PM	4	2	1	7
1:15 PM	11	6	0	17
1:30 PM	8	2	1	11
1:45 PM	8	3	0	11
2:00 PM	6	3	1	10
2:15 PM	5	5	0	10
2:30 PM	20	1	0	21
2:45 PM	108	8	1	117
3:00 PM	116	4	0	120
3:15 PM	124	6	0	130
3:30 PM	97	3	0	100
3:45 PM	116	5	0	121
4:00 PM	117	3	0	120
4:15 PM	96	2	0	98
4:30 PM	109	3	0	112
4:45 PM	112	2	0	114
5:00 PM	113	7	1	121
5:15 PM	98	1	0	99
5:30 PM	98	1	0	99
5:45 PM	122	3	0	125
6:00 PM	123	1	0	124
6:15 PM	84	3	0	87
6:30 PM	103	3	1	107
6:45 PM	84	4	0	88
7:00 PM	97	0	0	97
7:15 PM	77	2	0	79
7:30 PM	88	3	1	92
7:45 PM	75	0	0	75
8:00 PM	72	4	0	76
8:15 PM	56	1	0	57
8:30 PM	71	5	0	76
8:45 PM	43	2	0	45
9:00 PM	65	2	0	67
9:15 PM	42	3	0	45
9:30 PM	38	2	0	40
9:45 PM	27	2	0	29
10:00 PM	24	4	0	28
10:15 PM	20	1	0	21
10:30 PM	23	1	0	24
10:45 PM	16	1	0	17
11:00 PM	14	1	0	15
11:15 PM	7	2	0	9
11:30 PM	5	1	0	6
11:45 PM	7	2	0	9

PM Total	3163	144	8	3315
Percentage	95.41%	4.34%	0.24%	
PM Peak	3:15 PM	12:00 PM	12:45 PM	3:00 PM
Volume	454	24	2	471

Day Total	5441	310	24	5775
Percentage	94.22%	5.37%	488 of 820	42%

Massachusetts Avenue
west of Pine Court
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File # 207450 ATR A

Count Date: Wednesday, February 5, 2020
Direction: WB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	4	2	0	6
12:15 AM	2	1	0	3
12:30 AM	2	2	1	5
12:45 AM	1	1	0	2
1:00 AM	4	1	0	5
1:15 AM	2	0	0	2
1:30 AM	1	0	0	1
1:45 AM	2	1	0	3
2:00 AM	0	0	0	0
2:15 AM	1	0	0	1
2:30 AM	1	0	0	1
2:45 AM	0	0	0	0
3:00 AM	1	0	0	1
3:15 AM	2	0	0	2
3:30 AM	1	0	0	1
3:45 AM	0	0	0	0
4:00 AM	2	0	0	2
4:15 AM	1	0	0	1
4:30 AM	6	1	0	7
4:45 AM	7	1	1	9
5:00 AM	10	3	0	13
5:15 AM	12	1	0	13
5:30 AM	23	1	0	24
5:45 AM	20	2	0	22
6:00 AM	23	4	1	28
6:15 AM	34	5	1	40
6:30 AM	35	3	0	38
6:45 AM	67	11	1	79
7:00 AM	78	3	0	81
7:15 AM	90	7	1	98
7:30 AM	129	5	0	134
7:45 AM	148	5	0	153
8:00 AM	143	1	1	145
8:15 AM	110	5	1	116
8:30 AM	122	4	1	127
8:45 AM	106	5	0	111
9:00 AM	104	12	0	116
9:15 AM	80	12	1	93
9:30 AM	90	7	2	99
9:45 AM	97	8	1	106
10:00 AM	97	2	0	99
10:15 AM	82	7	0	89
10:30 AM	87	3	0	90
10:45 AM	89	4	0	93
11:00 AM	84	8	1	93
11:15 AM	91	5	0	96
11:30 AM	99	4	0	103
11:45 AM	105	5	0	110

AM Total	2295	152	14	2461
Percentage	93.25%	6.18%	0.57%	
AM Peak	7:30 AM	9:00 AM	9:00 AM	7:30 AM
Volume	530	39	4	548

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	99	8	0	107
12:15 PM	125	5	1	131
12:30 PM	100	4	1	105
12:45 PM	109	9	0	118
1:00 PM	105	4	0	109
1:15 PM	106	5	0	111
1:30 PM	113	10	0	123
1:45 PM	95	5	0	100
2:00 PM	113	5	0	118
2:15 PM	103	10	0	113
2:30 PM	141	2	0	143
2:45 PM	130	7	0	137
3:00 PM	129	12	0	141
3:15 PM	113	6	2	121
3:30 PM	126	6	0	132
3:45 PM	106	8	0	114
4:00 PM	119	1	0	120
4:15 PM	123	5	0	128
4:30 PM	98	5	1	104
4:45 PM	113	1	0	114
5:00 PM	126	5	0	131
5:15 PM	126	2	0	128
5:30 PM	113	4	0	117
5:45 PM	111	3	0	114
6:00 PM	114	2	0	116
6:15 PM	87	6	0	93
6:30 PM	92	7	0	99
6:45 PM	92	4	0	96
7:00 PM	82	2	0	84
7:15 PM	84	2	0	86
7:30 PM	62	5	0	67
7:45 PM	51	1	0	52
8:00 PM	70	3	0	73
8:15 PM	69	3	0	72
8:30 PM	72	2	1	75
8:45 PM	55	2	0	57
9:00 PM	59	2	0	61
9:15 PM	44	4	0	48
9:30 PM	28	1	0	29
9:45 PM	26	3	0	29
10:00 PM	23	2	0	25
10:15 PM	22	1	0	23
10:30 PM	12	1	0	13
10:45 PM	26	2	0	28
11:00 PM	11	1	0	12
11:15 PM	7	2	0	9
11:30 PM	3	2	0	5
11:45 PM	7	2	0	9

PM Total	3940	194	6	4140
Percentage	95.17%	4.69%	0.14%	
PM Peak	2:30 PM	3:00 PM	12:00 PM	2:30 PM
Volume	513	32	2	542

Day Total	6235	346	20	6601
Percentage	94.46%	5.24%	489 of 820	30%

Massachusetts Avenue
west of Pine Court
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File # 207450 ATR A

Direction: EB

Weekly Report

Day Date	Tuesday 02/04/20		Wednesday 02/05/20												Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	7	125	2	112	0	0	0	0	0	0	0	0	0	0	5	119
12:15	7	117	8	129	0	0	0	0	0	0	0	0	0	0	8	123
12:30	4	141	4	133	0	0	0	0	0	0	0	0	0	0	4	137
12:45	6	51	5	121	0	0	0	0	0	0	0	0	0	0	6	86
1:00	2	2	3	109	0	0	0	0	0	0	0	0	0	0	3	56
1:15	4	2	2	110	0	0	0	0	0	0	0	0	0	0	3	56
1:30	0	5	0	109	0	0	0	0	0	0	0	0	0	0	0	57
1:45	2	2	1	110	0	0	0	0	0	0	0	0	0	0	2	56
2:00	1	2	1	96	0	0	0	0	0	0	0	0	0	0	1	49
2:15	2	3	1	110	0	0	0	0	0	0	0	0	0	0	2	57
2:30	0	20	1	100	0	0	0	0	0	0	0	0	0	0	1	60
2:45	2	109	1	110	0	0	0	0	0	0	0	0	0	0	2	110
3:00	0	117	1	135	0	0	0	0	0	0	0	0	0	0	1	126
3:15	0	135	0	142	0	0	0	0	0	0	0	0	0	0	0	139
3:30	2	129	4	113	0	0	0	0	0	0	0	0	0	0	3	121
3:45	5	128	2	123	0	0	0	0	0	0	0	0	0	0	4	126
4:00	1	128	2	130	0	0	0	0	0	0	0	0	0	0	2	129
4:15	4	121	7	135	0	0	0	0	0	0	0	0	0	0	6	128
4:30	10	130	14	135	0	0	0	0	0	0	0	0	0	0	12	133
4:45	5	147	3	126	0	0	0	0	0	0	0	0	0	0	4	137
5:00	18	127	12	153	0	0	0	0	0	0	0	0	0	0	15	140
5:15	19	151	19	125	0	0	0	0	0	0	0	0	0	0	19	138
5:30	16	162	15	157	0	0	0	0	0	0	0	0	0	0	16	160
5:45	22	145	19	150	0	0	0	0	0	0	0	0	0	0	21	148
6:00	32	134	22	150	0	0	0	0	0	0	0	0	0	0	27	142
6:15	60	135	57	131	0	0	0	0	0	0	0	0	0	0	59	133
6:30	88	139	79	114	0	0	0	0	0	0	0	0	0	0	84	127
6:45	108	119	114	120	0	0	0	0	0	0	0	0	0	0	111	120
7:00	114	104	121	96	0	0	0	0	0	0	0	0	0	0	118	100
7:15	116	85	119	100	0	0	0	0	0	0	0	0	0	0	118	93
7:30	122	78	117	76	0	0	0	0	0	0	0	0	0	0	120	77
7:45	142	62	118	58	0	0	0	0	0	0	0	0	0	0	130	60
8:00	109	70	104	77	0	0	0	0	0	0	0	0	0	0	107	74
8:15	109	53	134	63	0	0	0	0	0	0	0	0	0	0	122	58
8:30	122	61	133	66	0	0	0	0	0	0	0	0	0	0	128	64
8:45	120	48	111	57	0	0	0	0	0	0	0	0	0	0	116	53
9:00	98	47	111	50	0	0	0	0	0	0	0	0	0	0	105	49
9:15	121	44	125	35	0	0	0	0	0	0	0	0	0	0	123	40
9:30	94	33	108	26	0	0	0	0	0	0	0	0	0	0	101	30
9:45	111	24	109	25	0	0	0	0	0	0	0	0	0	0	110	25
10:00	97	27	106	22	0	0	0	0	0	0	0	0	0	0	102	25
10:15	79	28	78	25	0	0	0	0	0	0	0	0	0	0	79	27
10:30	123	21	107	13	0	0	0	0	0	0	0	0	0	0	115	17
10:45	98	16	103	21	0	0	0	0	0	0	0	0	0	0	101	19
11:00	88	11	82	12	0	0	0	0	0	0	0	0	0	0	85	12
11:15	106	15	109	6	0	0	0	0	0	0	0	0	0	0	108	11
11:30	92	9	125	11	0	0	0	0	0	0	0	0	0	0	109	10
11:45	96	8	108	5	0	0	0	0	0	0	0	0	0	0	102	7
Total	2584	3570	2627	4332	0	0	0	0	0	0	0	0	0	0	2606	3951
Day Total	6154		6959		0		0		0		0		0		6557	
Peak HR	7:00 AM	5:15 PM	7:45 AM	5:30 PM												
Volume	494	592	489	588											486	587

Massachusetts Avenue
west of Pine Court
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File # 207450 ATR A

Direction: WB

Weekly Report

Day Date	Tuesday 02/04/20		Wednesday 02/05/20												Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	8	119	6	107	0	0	0	0	0	0	0	0	0	0	7	113
12:15	8	111	3	131	0	0	0	0	0	0	0	0	0	0	6	121
12:30	4	110	5	105	0	0	0	0	0	0	0	0	0	0	5	108
12:45	4	99	2	118	0	0	0	0	0	0	0	0	0	0	3	109
1:00	3	7	5	109	0	0	0	0	0	0	0	0	0	0	4	58
1:15	1	17	2	111	0	0	0	0	0	0	0	0	0	0	2	64
1:30	2	11	1	123	0	0	0	0	0	0	0	0	0	0	2	67
1:45	0	11	3	100	0	0	0	0	0	0	0	0	0	0	2	56
2:00	2	10	0	118	0	0	0	0	0	0	0	0	0	0	1	64
2:15	0	10	1	113	0	0	0	0	0	0	0	0	0	0	1	62
2:30	1	21	1	143	0	0	0	0	0	0	0	0	0	0	1	82
2:45	0	117	0	137	0	0	0	0	0	0	0	0	0	0	0	127
3:00	0	120	1	141	0	0	0	0	0	0	0	0	0	0	1	131
3:15	1	130	2	121	0	0	0	0	0	0	0	0	0	0	2	126
3:30	2	100	1	132	0	0	0	0	0	0	0	0	0	0	2	116
3:45	1	121	0	114	0	0	0	0	0	0	0	0	0	0	1	118
4:00	1	120	2	120	0	0	0	0	0	0	0	0	0	0	2	120
4:15	3	98	1	128	0	0	0	0	0	0	0	0	0	0	2	113
4:30	8	112	7	104	0	0	0	0	0	0	0	0	0	0	8	108
4:45	9	114	9	114	0	0	0	0	0	0	0	0	0	0	9	114
5:00	14	121	13	131	0	0	0	0	0	0	0	0	0	0	14	126
5:15	20	99	13	128	0	0	0	0	0	0	0	0	0	0	17	114
5:30	24	99	24	117	0	0	0	0	0	0	0	0	0	0	24	108
5:45	31	125	22	114	0	0	0	0	0	0	0	0	0	0	27	120
6:00	30	124	28	116	0	0	0	0	0	0	0	0	0	0	29	120
6:15	40	87	40	93	0	0	0	0	0	0	0	0	0	0	40	90
6:30	39	107	38	99	0	0	0	0	0	0	0	0	0	0	39	103
6:45	75	88	79	96	0	0	0	0	0	0	0	0	0	0	77	92
7:00	96	97	81	84	0	0	0	0	0	0	0	0	0	0	89	91
7:15	81	79	98	86	0	0	0	0	0	0	0	0	0	0	90	83
7:30	137	92	134	67	0	0	0	0	0	0	0	0	0	0	136	80
7:45	145	75	153	52	0	0	0	0	0	0	0	0	0	0	149	64
8:00	152	76	145	73	0	0	0	0	0	0	0	0	0	0	149	75
8:15	104	57	116	72	0	0	0	0	0	0	0	0	0	0	110	65
8:30	106	76	127	75	0	0	0	0	0	0	0	0	0	0	117	76
8:45	132	45	111	57	0	0	0	0	0	0	0	0	0	0	122	51
9:00	103	67	116	61	0	0	0	0	0	0	0	0	0	0	110	64
9:15	87	45	93	48	0	0	0	0	0	0	0	0	0	0	90	47
9:30	94	40	99	29	0	0	0	0	0	0	0	0	0	0	97	35
9:45	109	29	106	29	0	0	0	0	0	0	0	0	0	0	108	29
10:00	92	28	99	25	0	0	0	0	0	0	0	0	0	0	96	27
10:15	97	21	89	23	0	0	0	0	0	0	0	0	0	0	93	22
10:30	79	24	90	13	0	0	0	0	0	0	0	0	0	0	85	19
10:45	101	17	93	28	0	0	0	0	0	0	0	0	0	0	97	23
11:00	104	15	93	12	0	0	0	0	0	0	0	0	0	0	99	14
11:15	87	9	96	9	0	0	0	0	0	0	0	0	0	0	92	9
11:30	110	6	103	5	0	0	0	0	0	0	0	0	0	0	107	6
11:45	113	9	110	9	0	0	0	0	0	0	0	0	0	0	112	9
Total	2460	3315	2461	4140	0	0	0	0	0	0	0	0	0	0	2461	3728
Day Total	5775		6601		0		0		0		0		0		6188	
Peak HR	7:30 AM	3:00 PM	7:30 AM	2:30 PM												
Volume	538	471	548	542											543	499

Mirak Mill West Driveway
North of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File #

207450 B

Count Date: Tuesday, February 4, 2020
Direction: NB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0
12:15 AM	0	0	0	0
12:30 AM	0	0	0	0
12:45 AM	0	0	0	0
1:00 AM	0	0	0	0
1:15 AM	0	0	0	0
1:30 AM	0	0	0	0
1:45 AM	0	0	0	0
2:00 AM	1	0	0	1
2:15 AM	0	0	0	0
2:30 AM	0	0	0	0
2:45 AM	0	0	0	0
3:00 AM	0	0	0	0
3:15 AM	0	0	0	0
3:30 AM	0	0	0	0
3:45 AM	0	0	0	0
4:00 AM	0	0	0	0
4:15 AM	0	0	0	0
4:30 AM	0	0	0	0
4:45 AM	0	0	0	0
5:00 AM	0	0	0	0
5:15 AM	1	0	0	1
5:30 AM	0	0	0	0
5:45 AM	3	0	0	3
6:00 AM	6	0	0	6
6:15 AM	0	0	0	0
6:30 AM	1	0	0	1
6:45 AM	1	0	0	1
7:00 AM	2	0	0	2
7:15 AM	4	0	0	4
7:30 AM	5	0	0	5
7:45 AM	5	0	0	5
8:00 AM	6	0	0	6
8:15 AM	11	0	0	11
8:30 AM	5	0	0	5
8:45 AM	6	0	0	6
9:00 AM	12	0	0	12
9:15 AM	8	1	0	9
9:30 AM	5	1	0	6
9:45 AM	10	1	0	11
10:00 AM	5	0	0	5
10:15 AM	2	0	0	2
10:30 AM	7	0	0	7
10:45 AM	6	0	0	6
11:00 AM	5	0	0	5
11:15 AM	4	0	0	4
11:30 AM	4	0	0	4
11:45 AM	7	0	0	7

AM Total	132	3	0	135
Percentage	97.78%	2.22%	0.00%	
AM Peak	9:00 AM	9:00 AM	12:00 AM	9:00 AM
Volume	35	3	0	38

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	3	0	0	3
12:15 PM	5	0	0	5
12:30 PM	3	1	0	4
12:45 PM	4	0	0	4
1:00 PM	6	1	1	8
1:15 PM	6	0	0	6
1:30 PM	6	0	0	6
1:45 PM	11	0	0	11
2:00 PM	3	0	0	3
2:15 PM	7	1	0	8
2:30 PM	4	1	0	5
2:45 PM	2	0	0	2
3:00 PM	3	0	0	3
3:15 PM	2	0	0	2
3:30 PM	1	0	0	1
3:45 PM	2	0	0	2
4:00 PM	2	0	0	2
4:15 PM	1	0	0	1
4:30 PM	3	0	0	3
4:45 PM	2	0	0	2
5:00 PM	4	0	0	4
5:15 PM	2	0	0	2
5:30 PM	1	0	0	1
5:45 PM	1	0	0	1
6:00 PM	2	0	0	2
6:15 PM	1	0	0	1
6:30 PM	4	0	0	4
6:45 PM	2	0	0	2
7:00 PM	2	0	0	2
7:15 PM	2	0	0	2
7:30 PM	1	0	0	1
7:45 PM	0	0	0	0
8:00 PM	0	0	0	0
8:15 PM	0	0	0	0
8:30 PM	1	0	0	1
8:45 PM	0	0	0	0
9:00 PM	3	0	0	3
9:15 PM	0	0	0	0
9:30 PM	0	0	0	0
9:45 PM	0	0	0	0
10:00 PM	1	0	0	1
10:15 PM	0	0	0	0
10:30 PM	2	0	0	2
10:45 PM	0	0	0	0
11:00 PM	0	0	0	0
11:15 PM	0	0	0	0
11:30 PM	0	0	0	0
11:45 PM	0	0	0	0

PM Total	105	4	1	110
Percentage	95.45%	3.64%	0.91%	
PM Peak	1:00 PM	12:15 PM	12:15 PM	1:00 PM
Volume	29	2	1	31

Day Total	237	7	1	245
Percentage	96.73%	2.86%	0.41%	492 of 820

Mirak Mill West Driveway
North of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File #

207450 B

Count Date: Wednesday, February 5, 2020
Direction: NB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0
12:15 AM	0	0	0	0
12:30 AM	0	0	0	0
12:45 AM	0	0	0	0
1:00 AM	0	0	0	0
1:15 AM	0	0	0	0
1:30 AM	0	0	0	0
1:45 AM	0	0	0	0
2:00 AM	0	0	0	0
2:15 AM	0	0	0	0
2:30 AM	0	0	0	0
2:45 AM	0	0	0	0
3:00 AM	0	0	0	0
3:15 AM	0	0	0	0
3:30 AM	0	0	0	0
3:45 AM	0	0	0	0
4:00 AM	0	0	0	0
4:15 AM	0	0	0	0
4:30 AM	0	0	0	0
4:45 AM	0	0	0	0
5:00 AM	0	0	0	0
5:15 AM	0	0	0	0
5:30 AM	1	0	0	1
5:45 AM	5	0	0	5
6:00 AM	6	0	0	6
6:15 AM	0	0	0	0
6:30 AM	1	0	0	1
6:45 AM	3	0	0	3
7:00 AM	4	0	0	4
7:15 AM	4	0	0	4
7:30 AM	1	0	0	1
7:45 AM	4	0	0	4
8:00 AM	8	0	0	8
8:15 AM	8	0	0	8
8:30 AM	8	1	0	9
8:45 AM	16	0	0	16
9:00 AM	15	0	0	15
9:15 AM	6	0	0	6
9:30 AM	8	0	0	8
9:45 AM	2	0	0	2
10:00 AM	3	2	0	5
10:15 AM	1	0	0	1
10:30 AM	2	0	0	2
10:45 AM	2	1	0	3
11:00 AM	5	0	0	5
11:15 AM	2	0	0	2
11:30 AM	7	0	0	7
11:45 AM	1	0	0	1

AM Total	123	4	0	127
Percentage	96.85%	3.15%	0.00%	
AM Peak	8:15 AM	10:00 AM	12:00 AM	8:15 AM
Volume	47	3	0	48

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	3	0	0	3
12:15 PM	7	0	0	7
12:30 PM	7	1	0	8
12:45 PM	3	0	0	3
1:00 PM	9	0	0	9
1:15 PM	6	0	0	6
1:30 PM	5	0	0	5
1:45 PM	10	0	0	10
2:00 PM	3	0	0	3
2:15 PM	3	0	0	3
2:30 PM	2	0	0	2
2:45 PM	2	0	0	2
3:00 PM	6	0	0	6
3:15 PM	2	0	0	2
3:30 PM	7	0	0	7
3:45 PM	4	0	0	4
4:00 PM	5	0	0	5
4:15 PM	3	0	0	3
4:30 PM	2	0	0	2
4:45 PM	2	0	0	2
5:00 PM	0	0	0	0
5:15 PM	4	0	0	4
5:30 PM	3	0	0	3
5:45 PM	2	0	0	2
6:00 PM	1	0	0	1
6:15 PM	2	0	0	2
6:30 PM	1	0	0	1
6:45 PM	0	0	0	0
7:00 PM	2	0	0	2
7:15 PM	1	0	0	1
7:30 PM	2	0	0	2
7:45 PM	3	0	0	3
8:00 PM	1	0	0	1
8:15 PM	1	0	0	1
8:30 PM	1	0	0	1
8:45 PM	2	0	0	2
9:00 PM	0	0	0	0
9:15 PM	2	0	0	2
9:30 PM	0	0	0	0
9:45 PM	1	0	0	1
10:00 PM	0	0	0	0
10:15 PM	0	0	0	0
10:30 PM	0	0	0	0
10:45 PM	0	0	0	0
11:00 PM	0	0	0	0
11:15 PM	1	0	0	1
11:30 PM	0	0	0	0
11:45 PM	0	0	0	0

PM Total	121	1	0	122
Percentage	99.18%	0.82%	0.00%	
PM Peak	1:00 PM	12:00 PM	12:00 PM	1:00 PM
Volume	30	1	0	30

Day Total	244	5	0	249
Percentage	97.99%	2.01%	0.00%	493 of 826

Mirak Mill West Driveway
North of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File #

207450 B

Count Date: Tuesday, February 4, 2020
Direction: SB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0
12:15 AM	0	0	0	0
12:30 AM	0	0	0	0
12:45 AM	0	0	0	0
1:00 AM	0	0	0	0
1:15 AM	0	0	0	0
1:30 AM	0	0	0	0
1:45 AM	0	0	0	0
2:00 AM	0	0	0	0
2:15 AM	0	0	0	0
2:30 AM	0	0	0	0
2:45 AM	0	0	0	0
3:00 AM	0	0	0	0
3:15 AM	0	0	0	0
3:30 AM	0	0	0	0
3:45 AM	0	0	0	0
4:00 AM	0	0	0	0
4:15 AM	0	0	0	0
4:30 AM	0	0	0	0
4:45 AM	0	0	0	0
5:00 AM	0	0	0	0
5:15 AM	1	0	0	1
5:30 AM	0	0	0	0
5:45 AM	1	0	0	1
6:00 AM	0	0	0	0
6:15 AM	2	0	0	2
6:30 AM	0	0	0	0
6:45 AM	1	0	0	1
7:00 AM	1	0	0	1
7:15 AM	1	0	0	1
7:30 AM	1	0	0	1
7:45 AM	2	0	0	2
8:00 AM	2	0	0	2
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	2	0	0	2
9:00 AM	1	0	0	1
9:15 AM	3	0	0	3
9:30 AM	2	1	0	3
9:45 AM	1	0	0	1
10:00 AM	1	0	0	1
10:15 AM	1	0	0	1
10:30 AM	2	1	0	3
10:45 AM	0	0	0	0
11:00 AM	6	0	0	6
11:15 AM	2	0	0	2
11:30 AM	3	1	0	4
11:45 AM	4	0	0	4

AM Total	40	3	0	43
Percentage	93.02%	6.98%	0.00%	
AM Peak	11:00 AM	8:45 AM	12:00 AM	11:00 AM
Volume	15	1	0	16

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	3	0	0	3
12:15 PM	5	0	0	5
12:30 PM	9	0	0	9
12:45 PM	7	0	0	7
1:00 PM	10	0	0	10
1:15 PM	2	0	0	2
1:30 PM	6	0	0	6
1:45 PM	5	0	0	5
2:00 PM	1	0	0	1
2:15 PM	8	0	0	8
2:30 PM	6	0	0	6
2:45 PM	3	0	0	3
3:00 PM	5	0	0	5
3:15 PM	5	0	0	5
3:30 PM	4	0	0	4
3:45 PM	9	0	0	9
4:00 PM	4	0	0	4
4:15 PM	3	0	0	3
4:30 PM	8	0	0	8
4:45 PM	8	0	0	8
5:00 PM	11	0	0	11
5:15 PM	2	0	0	2
5:30 PM	5	1	0	6
5:45 PM	5	0	0	5
6:00 PM	7	0	0	7
6:15 PM	3	0	0	3
6:30 PM	2	0	0	2
6:45 PM	8	0	0	8
7:00 PM	1	0	0	1
7:15 PM	3	0	0	3
7:30 PM	4	0	0	4
7:45 PM	2	0	0	2
8:00 PM	4	0	0	4
8:15 PM	0	0	0	0
8:30 PM	0	0	0	0
8:45 PM	0	0	0	0
9:00 PM	0	0	0	0
9:15 PM	0	0	0	0
9:30 PM	0	0	0	0
9:45 PM	0	0	0	0
10:00 PM	0	0	0	0
10:15 PM	2	0	0	2
10:30 PM	0	0	0	0
10:45 PM	1	0	0	1
11:00 PM	0	0	0	0
11:15 PM	1	0	0	1
11:30 PM	0	0	0	0
11:45 PM	0	0	0	0

PM Total	172	1	0	173
Percentage	99.42%	0.58%	0.00%	
PM Peak	12:15 PM	4:45 PM	12:00 PM	12:15 PM
Volume	31	1	0	31

Day Total	212	4	0	216
Percentage	98.15%	1.85%	0.00%	494 of 826

Mirak Mill West Driveway
North of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File #

207450 B

Count Date: Wednesday, February 5, 2020
Direction: SB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0
12:15 AM	0	0	0	0
12:30 AM	0	0	0	0
12:45 AM	0	0	0	0
1:00 AM	0	0	0	0
1:15 AM	0	0	0	0
1:30 AM	0	0	0	0
1:45 AM	0	0	0	0
2:00 AM	0	0	0	0
2:15 AM	0	0	0	0
2:30 AM	0	0	0	0
2:45 AM	0	0	0	0
3:00 AM	0	0	0	0
3:15 AM	0	0	0	0
3:30 AM	0	0	0	0
3:45 AM	0	0	0	0
4:00 AM	0	0	0	0
4:15 AM	0	0	0	0
4:30 AM	0	0	0	0
4:45 AM	0	0	0	0
5:00 AM	0	0	0	0
5:15 AM	0	0	0	0
5:30 AM	0	0	0	0
5:45 AM	0	0	0	0
6:00 AM	2	0	0	2
6:15 AM	4	0	0	4
6:30 AM	1	0	0	1
6:45 AM	1	0	0	1
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	1	0	0	1
7:45 AM	1	0	0	1
8:00 AM	0	0	0	0
8:15 AM	3	0	0	3
8:30 AM	4	0	0	4
8:45 AM	1	0	0	1
9:00 AM	3	0	0	3
9:15 AM	2	0	0	2
9:30 AM	2	0	0	2
9:45 AM	1	0	0	1
10:00 AM	2	2	0	4
10:15 AM	1	0	0	1
10:30 AM	4	0	0	4
10:45 AM	1	0	0	1
11:00 AM	4	0	0	4
11:15 AM	4	0	0	4
11:30 AM	3	0	0	3
11:45 AM	3	0	0	3

AM Total	48	2	0	50
Percentage	96.00%	4.00%	0.00%	
AM Peak	11:00 AM	9:15 AM	12:00 AM	11:00 AM
Volume	14	2	0	14

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	5	0	0	5
12:15 PM	10	0	0	10
12:30 PM	4	1	0	5
12:45 PM	9	0	0	9
1:00 PM	6	0	0	6
1:15 PM	1	0	0	1
1:30 PM	2	0	0	2
1:45 PM	5	0	0	5
2:00 PM	4	0	0	4
2:15 PM	3	0	0	3
2:30 PM	4	0	0	4
2:45 PM	3	0	0	3
3:00 PM	7	0	0	7
3:15 PM	5	0	0	5
3:30 PM	4	0	0	4
3:45 PM	4	0	0	4
4:00 PM	7	0	0	7
4:15 PM	6	0	0	6
4:30 PM	13	0	0	13
4:45 PM	9	0	0	9
5:00 PM	3	0	0	3
5:15 PM	8	0	0	8
5:30 PM	8	0	0	8
5:45 PM	3	0	0	3
6:00 PM	10	0	0	10
6:15 PM	3	0	0	3
6:30 PM	1	0	0	1
6:45 PM	2	0	0	2
7:00 PM	1	0	0	1
7:15 PM	2	0	0	2
7:30 PM	1	0	0	1
7:45 PM	1	0	0	1
8:00 PM	2	0	0	2
8:15 PM	3	0	0	3
8:30 PM	1	0	0	1
8:45 PM	1	0	0	1
9:00 PM	1	0	0	1
9:15 PM	0	0	0	0
9:30 PM	2	0	0	2
9:45 PM	0	0	0	0
10:00 PM	1	0	0	1
10:15 PM	0	0	0	0
10:30 PM	0	0	0	0
10:45 PM	0	0	0	0
11:00 PM	1	0	0	1
11:15 PM	1	0	0	1
11:30 PM	0	0	0	0
11:45 PM	0	0	0	0

PM Total	167	1	0	168
Percentage	99.40%	0.60%	0.00%	
PM Peak	4:00 PM	12:00 PM	12:00 PM	4:00 PM
Volume	35	1	0	35

Day Total	215	3	0	218
Percentage	98.62%	1.38%	0.00%	495 of 826

Mirak Mill West Driveway
North of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File # 207450 B

Direction: NB

Weekly Report

Day Date	Tuesday 02/04/20		Wednesday 02/05/20												Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	3
12:15	0	5	0	7	0	0	0	0	0	0	0	0	0	0	0	6
12:30	0	4	0	8	0	0	0	0	0	0	0	0	0	0	0	6
12:45	0	4	0	3	0	0	0	0	0	0	0	0	0	0	0	4
1:00	0	8	0	9	0	0	0	0	0	0	0	0	0	0	0	9
1:15	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0	6
1:30	0	6	0	5	0	0	0	0	0	0	0	0	0	0	0	6
1:45	0	11	0	10	0	0	0	0	0	0	0	0	0	0	0	11
2:00	1	3	0	3	0	0	0	0	0	0	0	0	0	0	1	3
2:15	0	8	0	3	0	0	0	0	0	0	0	0	0	0	0	6
2:30	0	5	0	2	0	0	0	0	0	0	0	0	0	0	0	4
2:45	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2
3:00	0	3	0	6	0	0	0	0	0	0	0	0	0	0	0	5
3:15	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2
3:30	0	1	0	7	0	0	0	0	0	0	0	0	0	0	0	4
3:45	0	2	0	4	0	0	0	0	0	0	0	0	0	0	0	3
4:00	0	2	0	5	0	0	0	0	0	0	0	0	0	0	0	4
4:15	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	2
4:30	0	3	0	2	0	0	0	0	0	0	0	0	0	0	0	3
4:45	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2
5:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15	1	2	0	4	0	0	0	0	0	0	0	0	0	0	1	3
5:30	0	1	1	3	0	0	0	0	0	0	0	0	0	0	1	2
5:45	3	1	5	2	0	0	0	0	0	0	0	0	0	0	4	2
6:00	6	2	6	1	0	0	0	0	0	0	0	0	0	0	6	2
6:15	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	2
6:30	1	4	1	1	0	0	0	0	0	0	0	0	0	0	1	3
6:45	1	2	3	0	0	0	0	0	0	0	0	0	0	0	2	1
7:00	2	2	4	2	0	0	0	0	0	0	0	0	0	0	3	2
7:15	4	2	4	1	0	0	0	0	0	0	0	0	0	0	4	2
7:30	5	1	1	2	0	0	0	0	0	0	0	0	0	0	3	2
7:45	5	0	4	3	0	0	0	0	0	0	0	0	0	0	5	2
8:00	6	0	8	1	0	0	0	0	0	0	0	0	0	0	7	1
8:15	11	0	8	1	0	0	0	0	0	0	0	0	0	0	10	1
8:30	5	1	9	1	0	0	0	0	0	0	0	0	0	0	7	1
8:45	6	0	16	2	0	0	0	0	0	0	0	0	0	0	11	1
9:00	12	3	15	0	0	0	0	0	0	0	0	0	0	0	14	2
9:15	9	0	6	2	0	0	0	0	0	0	0	0	0	0	8	1
9:30	6	0	8	0	0	0	0	0	0	0	0	0	0	0	7	0
9:45	11	0	2	1	0	0	0	0	0	0	0	0	0	0	7	1
10:00	5	1	5	0	0	0	0	0	0	0	0	0	0	0	5	1
10:15	2	0	1	0	0	0	0	0	0	0	0	0	0	0	2	0
10:30	7	2	2	0	0	0	0	0	0	0	0	0	0	0	5	1
10:45	6	0	3	0	0	0	0	0	0	0	0	0	0	0	5	0
11:00	5	0	5	0	0	0	0	0	0	0	0	0	0	0	5	0
11:15	4	0	2	1	0	0	0	0	0	0	0	0	0	0	3	1
11:30	4	0	7	0	0	0	0	0	0	0	0	0	0	0	6	0
11:45	7	0	1	0	0	0	0	0	0	0	0	0	0	0	4	0
Total	135	110	127	122	0	0	0	0	0	0	0	0	0	0	131	116
Day Total	245		249		0		0		0		0		0		247	
Peak HR	9:00 AM	1:00 PM	8:15 AM	1:00 PM												
Volume	38	31	48	30											41	31

Mirak Mill West Driveway
North of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File # 207450 B

Direction: SB

Weekly Report

Day Date	Tuesday 02/04/20		Wednesday 02/05/20												Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	0	3	0	5	0	0	0	0	0	0	0	0	0	0	0	4
12:15	0	5	0	10	0	0	0	0	0	0	0	0	0	0	0	8
12:30	0	9	0	5	0	0	0	0	0	0	0	0	0	0	0	7
12:45	0	7	0	9	0	0	0	0	0	0	0	0	0	0	0	8
1:00	0	10	0	6	0	0	0	0	0	0	0	0	0	0	0	8
1:15	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	2
1:30	0	6	0	2	0	0	0	0	0	0	0	0	0	0	0	4
1:45	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	5
2:00	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0	3
2:15	0	8	0	3	0	0	0	0	0	0	0	0	0	0	0	6
2:30	0	6	0	4	0	0	0	0	0	0	0	0	0	0	0	5
2:45	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	3
3:00	0	5	0	7	0	0	0	0	0	0	0	0	0	0	0	6
3:15	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	5
3:30	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	4
3:45	0	9	0	4	0	0	0	0	0	0	0	0	0	0	0	7
4:00	0	4	0	7	0	0	0	0	0	0	0	0	0	0	0	6
4:15	0	3	0	6	0	0	0	0	0	0	0	0	0	0	0	5
4:30	0	8	0	13	0	0	0	0	0	0	0	0	0	0	0	11
4:45	0	8	0	9	0	0	0	0	0	0	0	0	0	0	0	9
5:00	0	11	0	3	0	0	0	0	0	0	0	0	0	0	0	7
5:15	1	2	0	8	0	0	0	0	0	0	0	0	0	0	1	5
5:30	0	6	0	8	0	0	0	0	0	0	0	0	0	0	0	7
5:45	1	5	0	3	0	0	0	0	0	0	0	0	0	0	1	4
6:00	0	7	2	10	0	0	0	0	0	0	0	0	0	0	1	9
6:15	2	3	4	3	0	0	0	0	0	0	0	0	0	0	3	3
6:30	0	2	1	1	0	0	0	0	0	0	0	0	0	0	1	2
6:45	1	8	1	2	0	0	0	0	0	0	0	0	0	0	1	5
7:00	1	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1
7:15	1	3	0	2	0	0	0	0	0	0	0	0	0	0	1	3
7:30	1	4	1	1	0	0	0	0	0	0	0	0	0	0	1	3
7:45	2	2	1	1	0	0	0	0	0	0	0	0	0	0	2	2
8:00	2	4	0	2	0	0	0	0	0	0	0	0	0	0	1	3
8:15	0	0	3	3	0	0	0	0	0	0	0	0	0	0	2	2
8:30	0	0	4	1	0	0	0	0	0	0	0	0	0	0	2	1
8:45	2	0	1	1	0	0	0	0	0	0	0	0	0	0	2	1
9:00	1	0	3	1	0	0	0	0	0	0	0	0	0	0	2	1
9:15	3	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0
9:30	3	0	2	2	0	0	0	0	0	0	0	0	0	0	3	1
9:45	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
10:00	1	0	4	1	0	0	0	0	0	0	0	0	0	0	3	1
10:15	1	2	1	0	0	0	0	0	0	0	0	0	0	0	1	1
10:30	3	0	4	0	0	0	0	0	0	0	0	0	0	0	4	0
10:45	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1
11:00	6	0	4	1	0	0	0	0	0	0	0	0	0	0	5	1
11:15	2	1	4	1	0	0	0	0	0	0	0	0	0	0	3	1
11:30	4	0	3	0	0	0	0	0	0	0	0	0	0	0	4	0
11:45	4	0	3	0	0	0	0	0	0	0	0	0	0	0	4	0
Total	43	173	50	168	0	0	0	0	0	0	0	0	0	0	47	171
Day Total	216		218		0		0		0		0		0		217	
Peak HR	11:00 AM	12:15 PM	11:00 AM	4:00 PM												
Volume	16	31	14	35											15	31

Quinn Road (East Driveway)
north of Massachusett Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File #

207450 C

Count Date: Tuesday, February 4, 2020
Direction: NB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0
12:15 AM	0	0	0	0
12:30 AM	0	0	0	0
12:45 AM	0	0	0	0
1:00 AM	0	0	0	0
1:15 AM	0	0	0	0
1:30 AM	0	0	0	0
1:45 AM	0	0	0	0
2:00 AM	0	0	0	0
2:15 AM	0	0	0	0
2:30 AM	0	0	0	0
2:45 AM	0	0	0	0
3:00 AM	0	0	0	0
3:15 AM	0	0	0	0
3:30 AM	0	0	0	0
3:45 AM	0	0	0	0
4:00 AM	0	0	0	0
4:15 AM	0	0	0	0
4:30 AM	0	0	0	0
4:45 AM	0	0	0	0
5:00 AM	0	0	0	0
5:15 AM	1	0	0	1
5:30 AM	0	0	0	0
5:45 AM	1	0	0	1
6:00 AM	1	0	0	1
6:15 AM	6	0	0	6
6:30 AM	0	0	0	0
6:45 AM	6	0	0	6
7:00 AM	4	1	0	5
7:15 AM	8	1	0	9
7:30 AM	4	0	0	4
7:45 AM	11	0	0	11
8:00 AM	13	0	0	13
8:15 AM	6	1	0	7
8:30 AM	4	0	0	4
8:45 AM	7	0	0	7
9:00 AM	9	1	0	10
9:15 AM	10	0	0	10
9:30 AM	1	0	0	1
9:45 AM	8	2	0	10
10:00 AM	10	0	0	10
10:15 AM	4	0	0	4
10:30 AM	7	3	0	10
10:45 AM	4	2	0	6
11:00 AM	2	0	0	2
11:15 AM	8	0	0	8
11:30 AM	7	0	0	7
11:45 AM	4	0	0	4

AM Total	146	11	0	157
Percentage	92.99%	7.01%	0.00%	
AM Peak	7:15 AM	9:45 AM	12:00 AM	7:15 AM
Volume	36	5	0	37

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	9	1	0	10
12:15 PM	5	0	0	5
12:30 PM	7	0	0	7
12:45 PM	20	3	0	23
1:00 PM	1	0	1	2
1:15 PM	1	0	0	1
1:30 PM	0	0	0	0
1:45 PM	0	0	0	0
2:00 PM	0	0	0	0
2:15 PM	0	0	1	1
2:30 PM	0	1	0	1
2:45 PM	4	0	0	4
3:00 PM	2	0	1	3
3:15 PM	4	0	0	4
3:30 PM	4	0	0	4
3:45 PM	2	0	0	2
4:00 PM	3	0	0	3
4:15 PM	3	0	0	3
4:30 PM	3	0	0	3
4:45 PM	3	0	0	3
5:00 PM	3	0	0	3
5:15 PM	2	0	0	2
5:30 PM	3	0	0	3
5:45 PM	1	0	0	1
6:00 PM	1	0	0	1
6:15 PM	0	0	0	0
6:30 PM	0	0	0	0
6:45 PM	1	0	0	1
7:00 PM	0	0	0	0
7:15 PM	1	0	0	1
7:30 PM	1	0	0	1
7:45 PM	1	0	0	1
8:00 PM	2	0	0	2
8:15 PM	0	0	0	0
8:30 PM	0	0	0	0
8:45 PM	0	0	0	0
9:00 PM	0	0	0	0
9:15 PM	0	1	0	1
9:30 PM	0	0	0	0
9:45 PM	0	0	0	0
10:00 PM	1	0	0	1
10:15 PM	0	0	0	0
10:30 PM	0	0	0	0
10:45 PM	1	0	0	1
11:00 PM	0	0	0	0
11:15 PM	0	0	0	0
11:30 PM	0	0	0	0
11:45 PM	0	0	0	0

PM Total	89	6	3	98
Percentage	90.82%	6.12%	3.06%	
PM Peak	12:00 PM	12:00 PM	2:15 PM	12:00 PM
Volume	41	4	2	45

Day Total	235	17	3	255
Percentage	92.16%	6.67%	498 of 826	18%

Quinn Road (East Driveway)
north of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File #

207450 C

Count Date: Wednesday, February 5, 2020
Direction: NB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0
12:15 AM	0	0	0	0
12:30 AM	0	0	0	0
12:45 AM	0	0	0	0
1:00 AM	0	0	0	0
1:15 AM	0	0	0	0
1:30 AM	0	0	0	0
1:45 AM	0	0	0	0
2:00 AM	0	0	0	0
2:15 AM	0	0	0	0
2:30 AM	0	0	0	0
2:45 AM	0	0	0	0
3:00 AM	0	0	0	0
3:15 AM	0	0	0	0
3:30 AM	0	0	0	0
3:45 AM	0	0	0	0
4:00 AM	1	0	0	1
4:15 AM	0	0	0	0
4:30 AM	0	0	0	0
4:45 AM	0	0	0	0
5:00 AM	0	0	0	0
5:15 AM	0	0	0	0
5:30 AM	0	0	0	0
5:45 AM	1	0	0	1
6:00 AM	1	0	0	1
6:15 AM	7	0	0	7
6:30 AM	9	0	0	9
6:45 AM	7	1	0	8
7:00 AM	7	1	0	8
7:15 AM	6	0	0	6
7:30 AM	4	0	0	4
7:45 AM	3	0	0	3
8:00 AM	9	0	2	11
8:15 AM	7	1	0	8
8:30 AM	3	1	0	4
8:45 AM	12	1	0	13
9:00 AM	8	0	0	8
9:15 AM	9	0	0	9
9:30 AM	11	1	0	12
9:45 AM	6	0	0	6
10:00 AM	4	1	0	5
10:15 AM	5	1	0	6
10:30 AM	2	0	0	2
10:45 AM	0	0	0	0
11:00 AM	7	0	0	7
11:15 AM	8	0	0	8
11:30 AM	5	0	1	6
11:45 AM	7	1	0	8

AM Total	149	9	3	161
Percentage	92.55%	5.59%	1.86%	
AM Peak	8:45 AM	8:00 AM	7:15 AM	8:45 AM
Volume	40	3	2	42

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	4	0	0	4
12:15 PM	5	0	0	5
12:30 PM	7	0	0	7
12:45 PM	10	0	0	10
1:00 PM	6	1	0	7
1:15 PM	3	1	0	4
1:30 PM	8	0	0	8
1:45 PM	11	0	0	11
2:00 PM	4	0	0	4
2:15 PM	5	2	0	7
2:30 PM	5	0	1	6
2:45 PM	2	0	0	2
3:00 PM	5	0	0	5
3:15 PM	7	0	0	7
3:30 PM	4	0	0	4
3:45 PM	2	0	0	2
4:00 PM	4	0	0	4
4:15 PM	4	0	0	4
4:30 PM	1	0	0	1
4:45 PM	1	0	0	1
5:00 PM	2	0	0	2
5:15 PM	4	0	0	4
5:30 PM	3	0	0	3
5:45 PM	1	0	0	1
6:00 PM	0	0	0	0
6:15 PM	0	0	0	0
6:30 PM	1	0	0	1
6:45 PM	2	0	0	2
7:00 PM	0	0	0	0
7:15 PM	2	0	0	2
7:30 PM	1	0	0	1
7:45 PM	3	0	0	3
8:00 PM	1	0	0	1
8:15 PM	0	0	0	0
8:30 PM	0	0	0	0
8:45 PM	1	0	0	1
9:00 PM	0	0	0	0
9:15 PM	0	0	0	0
9:30 PM	0	0	0	0
9:45 PM	1	0	0	1
10:00 PM	0	0	0	0
10:15 PM	0	0	0	0
10:30 PM	0	0	0	0
10:45 PM	0	0	0	0
11:00 PM	0	0	0	0
11:15 PM	0	0	0	0
11:30 PM	0	0	0	0
11:45 PM	0	0	0	0

PM Total	120	4	1	125
Percentage	96.00%	3.20%	0.80%	
PM Peak	12:15 PM	12:30 PM	1:45 PM	1:00 PM
Volume	28	2	1	30

Day Total	269	13	4	286
Percentage	94.06%	4.55%	499 of 826	40%

Quinn Road (East Driveway)
north of Massachusett Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File #

207450 C

Count Date: Tuesday, February 4, 2020
Direction: SB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0
12:15 AM	0	0	0	0
12:30 AM	0	0	0	0
12:45 AM	0	0	0	0
1:00 AM	0	0	0	0
1:15 AM	0	0	1	1
1:30 AM	0	0	0	0
1:45 AM	0	0	0	0
2:00 AM	0	0	0	0
2:15 AM	0	0	0	0
2:30 AM	0	0	0	0
2:45 AM	0	0	0	0
3:00 AM	0	0	0	0
3:15 AM	0	0	0	0
3:30 AM	0	0	0	0
3:45 AM	0	0	0	0
4:00 AM	0	0	0	0
4:15 AM	0	0	0	0
4:30 AM	0	0	0	0
4:45 AM	0	0	0	0
5:00 AM	0	0	0	0
5:15 AM	0	0	0	0
5:30 AM	0	0	0	0
5:45 AM	0	0	0	0
6:00 AM	0	0	0	0
6:15 AM	0	0	0	0
6:30 AM	0	0	0	0
6:45 AM	1	0	0	1
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	1	0	1
7:45 AM	3	0	0	3
8:00 AM	2	0	0	2
8:15 AM	4	0	0	4
8:30 AM	4	0	0	4
8:45 AM	5	0	0	5
9:00 AM	2	0	0	2
9:15 AM	3	2	0	5
9:30 AM	1	0	0	1
9:45 AM	4	1	0	5
10:00 AM	8	1	0	9
10:15 AM	8	0	0	8
10:30 AM	6	0	0	6
10:45 AM	6	1	0	7
11:00 AM	5	0	1	6
11:15 AM	4	1	0	5
11:30 AM	3	0	0	3
11:45 AM	12	0	0	12

AM Total	81	7	2	90
Percentage	90.00%	7.78%	2.22%	
AM Peak	10:00 AM	9:15 AM	12:30 AM	10:00 AM
Volume	28	4	1	30

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	7	0	0	7
12:15 PM	6	1	0	7
12:30 PM	3	0	0	3
12:45 PM	8	0	0	8
1:00 PM	3	1	0	4
1:15 PM	8	1	0	9
1:30 PM	5	0	1	6
1:45 PM	6	0	0	6
2:00 PM	6	0	0	6
2:15 PM	3	1	0	4
2:30 PM	6	1	0	7
2:45 PM	5	1	1	7
3:00 PM	3	0	0	3
3:15 PM	3	0	0	3
3:30 PM	4	0	0	4
3:45 PM	4	0	0	4
4:00 PM	8	0	0	8
4:15 PM	4	0	0	4
4:30 PM	10	0	0	10
4:45 PM	4	0	0	4
5:00 PM	15	1	0	16
5:15 PM	5	0	0	5
5:30 PM	7	0	0	7
5:45 PM	4	0	0	4
6:00 PM	7	0	0	7
6:15 PM	4	0	0	4
6:30 PM	0	0	0	0
6:45 PM	0	0	0	0
7:00 PM	0	0	0	0
7:15 PM	1	0	0	1
7:30 PM	0	0	0	0
7:45 PM	5	0	0	5
8:00 PM	4	0	0	4
8:15 PM	1	0	0	1
8:30 PM	1	0	0	1
8:45 PM	1	0	0	1
9:00 PM	0	0	0	0
9:15 PM	0	0	0	0
9:30 PM	1	0	0	1
9:45 PM	0	0	0	0
10:00 PM	1	0	0	1
10:15 PM	0	0	0	0
10:30 PM	0	0	0	0
10:45 PM	0	0	0	0
11:00 PM	0	0	0	0
11:15 PM	1	0	0	1
11:30 PM	0	0	0	0
11:45 PM	0	0	0	0

PM Total	164	7	2	173
Percentage	94.80%	4.05%	1.16%	
PM Peak	4:30 PM	2:00 PM	12:45 PM	4:30 PM
Volume	34	3	1	35

Day Total	245	14	4	263
Percentage	93.16%	5.32%	2.05%	

500 of 826

Quinn Road (East Driveway)
north of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File #

207450 C

Count Date: Wednesday, February 5, 2020
Direction: SB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0
12:15 AM	0	0	0	0
12:30 AM	0	0	1	1
12:45 AM	0	0	0	0
1:00 AM	0	0	0	0
1:15 AM	0	0	0	0
1:30 AM	0	0	0	0
1:45 AM	0	0	0	0
2:00 AM	0	0	0	0
2:15 AM	0	0	0	0
2:30 AM	0	0	0	0
2:45 AM	0	0	0	0
3:00 AM	0	0	0	0
3:15 AM	0	0	0	0
3:30 AM	0	0	0	0
3:45 AM	0	0	0	0
4:00 AM	0	0	0	0
4:15 AM	0	0	0	0
4:30 AM	0	0	0	0
4:45 AM	0	0	0	0
5:00 AM	0	0	0	0
5:15 AM	0	0	0	0
5:30 AM	0	0	0	0
5:45 AM	0	0	0	0
6:00 AM	0	0	0	0
6:15 AM	0	0	0	0
6:30 AM	1	0	0	1
6:45 AM	1	0	0	1
7:00 AM	0	0	0	0
7:15 AM	1	0	0	1
7:30 AM	0	0	0	0
7:45 AM	2	0	0	2
8:00 AM	5	0	0	5
8:15 AM	3	0	1	4
8:30 AM	5	3	1	9
8:45 AM	0	1	0	1
9:00 AM	4	0	0	4
9:15 AM	7	0	0	7
9:30 AM	9	0	0	9
9:45 AM	5	0	0	5
10:00 AM	7	0	0	7
10:15 AM	6	0	0	6
10:30 AM	4	0	0	4
10:45 AM	0	1	0	1
11:00 AM	4	0	0	4
11:15 AM	7	0	0	7
11:30 AM	6	0	0	6
11:45 AM	10	0	0	10

AM Total	87	5	3	95
Percentage	91.58%	5.26%	3.16%	
AM Peak	9:15 AM	8:00 AM	7:45 AM	9:15 AM
Volume	28	4	2	28

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	5	0	1	6
12:15 PM	9	0	0	9
12:30 PM	6	0	0	6
12:45 PM	10	0	0	10
1:00 PM	4	1	0	5
1:15 PM	6	1	0	7
1:30 PM	12	0	0	12
1:45 PM	7	0	0	7
2:00 PM	8	0	0	8
2:15 PM	3	1	0	4
2:30 PM	7	0	0	7
2:45 PM	4	0	0	4
3:00 PM	8	1	1	10
3:15 PM	4	0	0	4
3:30 PM	5	0	0	5
3:45 PM	6	0	0	6
4:00 PM	4	1	0	5
4:15 PM	8	0	0	8
4:30 PM	3	0	1	4
4:45 PM	6	0	0	6
5:00 PM	10	0	0	10
5:15 PM	5	0	0	5
5:30 PM	8	0	0	8
5:45 PM	7	0	0	7
6:00 PM	6	0	0	6
6:15 PM	4	0	0	4
6:30 PM	1	0	0	1
6:45 PM	1	0	0	1
7:00 PM	1	0	0	1
7:15 PM	1	0	0	1
7:30 PM	3	0	0	3
7:45 PM	1	0	0	1
8:00 PM	3	0	0	3
8:15 PM	5	0	0	5
8:30 PM	0	0	0	0
8:45 PM	1	0	0	1
9:00 PM	0	0	0	0
9:15 PM	0	0	0	0
9:30 PM	0	0	0	0
9:45 PM	2	0	0	2
10:00 PM	0	0	0	0
10:15 PM	0	0	0	0
10:30 PM	0	0	0	0
10:45 PM	0	0	0	0
11:00 PM	0	0	0	0
11:15 PM	0	0	0	0
11:30 PM	0	0	0	0
11:45 PM	0	0	0	0

PM Total	184	5	3	192
Percentage	95.83%	2.60%	1.56%	
PM Peak	1:15 PM	12:30 PM	12:00 PM	12:45 PM
Volume	33	2	1	34

Day Total	271	10	6	287
Percentage	94.43%	3.48%	501 of 826	0.9%

Quinn Road (East Driveway)
north of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File # 207450 C

Direction: NB

Weekly Report

Day Date	Tuesday 02/04/20		Wednesday 02/05/20												Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	0	10	0	4	0	0	0	0	0	0	0	0	0	0	0	7
12:15	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	5
12:30	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	7
12:45	0	23	0	10	0	0	0	0	0	0	0	0	0	0	0	17
1:00	0	2	0	7	0	0	0	0	0	0	0	0	0	0	0	5
1:15	0	1	0	4	0	0	0	0	0	0	0	0	0	0	0	3
1:30	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	4
1:45	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	6
2:00	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	2
2:15	0	1	0	7	0	0	0	0	0	0	0	0	0	0	0	4
2:30	0	1	0	6	0	0	0	0	0	0	0	0	0	0	0	4
2:45	0	4	0	2	0	0	0	0	0	0	0	0	0	0	0	3
3:00	0	3	0	5	0	0	0	0	0	0	0	0	0	0	0	4
3:15	0	4	0	7	0	0	0	0	0	0	0	0	0	0	0	6
3:30	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	4
3:45	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2
4:00	0	3	1	4	0	0	0	0	0	0	0	0	0	0	1	4
4:15	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0	4
4:30	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	2
4:45	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	2
5:00	0	3	0	2	0	0	0	0	0	0	0	0	0	0	0	3
5:15	1	2	0	4	0	0	0	0	0	0	0	0	0	0	1	3
5:30	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	3
5:45	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1
6:00	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1
6:15	6	0	7	0	0	0	0	0	0	0	0	0	0	0	7	0
6:30	0	0	9	1	0	0	0	0	0	0	0	0	0	0	5	1
6:45	6	1	8	2	0	0	0	0	0	0	0	0	0	0	7	2
7:00	5	0	8	0	0	0	0	0	0	0	0	0	0	0	7	0
7:15	9	1	6	2	0	0	0	0	0	0	0	0	0	0	8	2
7:30	4	1	4	1	0	0	0	0	0	0	0	0	0	0	4	1
7:45	11	1	3	3	0	0	0	0	0	0	0	0	0	0	7	2
8:00	13	2	11	1	0	0	0	0	0	0	0	0	0	0	12	2
8:15	7	0	8	0	0	0	0	0	0	0	0	0	0	0	8	0
8:30	4	0	4	0	0	0	0	0	0	0	0	0	0	0	4	0
8:45	7	0	13	1	0	0	0	0	0	0	0	0	0	0	10	1
9:00	10	0	8	0	0	0	0	0	0	0	0	0	0	0	9	0
9:15	10	1	9	0	0	0	0	0	0	0	0	0	0	0	10	1
9:30	1	0	12	0	0	0	0	0	0	0	0	0	0	0	7	0
9:45	10	0	6	1	0	0	0	0	0	0	0	0	0	0	8	1
10:00	10	1	5	0	0	0	0	0	0	0	0	0	0	0	8	1
10:15	4	0	6	0	0	0	0	0	0	0	0	0	0	0	5	0
10:30	10	0	2	0	0	0	0	0	0	0	0	0	0	0	6	0
10:45	6	1	0	0	0	0	0	0	0	0	0	0	0	0	3	1
11:00	2	0	7	0	0	0	0	0	0	0	0	0	0	0	5	0
11:15	8	0	8	0	0	0	0	0	0	0	0	0	0	0	8	0
11:30	7	0	6	0	0	0	0	0	0	0	0	0	0	0	7	0
11:45	4	0	8	0	0	0	0	0	0	0	0	0	0	0	6	0
Total	157	98	161	125	0	0	0	0	0	0	0	0	0	0	159	112
Day Total	255		286		0		0		0		0		0		271	
Peak HR	7:15 AM	12:00 PM	8:45 AM	1:00 PM												
Volume	37	45	42	30											35	36

Quinn Road (East Driveway)
north of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File # 207450 C

Direction: SB

Weekly Report

Day Date	Tuesday 02/04/20		Wednesday 02/05/20												Week Ave			
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
12:00	0	7	0	6	0	0	0	0	0	0	0	0	0	0	0	7		
12:15	0	7	0	9	0	0	0	0	0	0	0	0	0	0	0	8		
12:30	0	3	1	6	0	0	0	0	0	0	0	0	0	0	1	5		
12:45	0	8	0	10	0	0	0	0	0	0	0	0	0	0	0	9		
1:00	0	4	0	5	0	0	0	0	0	0	0	0	0	0	0	5		
1:15	1	9	0	7	0	0	0	0	0	0	0	0	0	0	1	8		
1:30	0	6	0	12	0	0	0	0	0	0	0	0	0	0	0	9		
1:45	0	6	0	7	0	0	0	0	0	0	0	0	0	0	0	7		
2:00	0	6	0	8	0	0	0	0	0	0	0	0	0	0	0	7		
2:15	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	4		
2:30	0	7	0	7	0	0	0	0	0	0	0	0	0	0	0	7		
2:45	0	7	0	4	0	0	0	0	0	0	0	0	0	0	0	6		
3:00	0	3	0	10	0	0	0	0	0	0	0	0	0	0	0	7		
3:15	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0	4		
3:30	0	4	0	5	0	0	0	0	0	0	0	0	0	0	0	5		
3:45	0	4	0	6	0	0	0	0	0	0	0	0	0	0	0	5		
4:00	0	8	0	5	0	0	0	0	0	0	0	0	0	0	0	7		
4:15	0	4	0	8	0	0	0	0	0	0	0	0	0	0	0	6		
4:30	0	10	0	4	0	0	0	0	0	0	0	0	0	0	0	7		
4:45	0	4	0	6	0	0	0	0	0	0	0	0	0	0	0	5		
5:00	0	16	0	10	0	0	0	0	0	0	0	0	0	0	0	13		
5:15	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	5		
5:30	0	7	0	8	0	0	0	0	0	0	0	0	0	0	0	8		
5:45	0	4	0	7	0	0	0	0	0	0	0	0	0	0	0	6		
6:00	0	7	0	6	0	0	0	0	0	0	0	0	0	0	0	7		
6:15	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	4		
6:30	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1		
6:45	1	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1		
7:00	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1		
7:15	0	1	1	1	0	0	0	0	0	0	0	0	0	0	1	1		
7:30	1	0	0	3	0	0	0	0	0	0	0	0	0	0	1	2		
7:45	3	5	2	1	0	0	0	0	0	0	0	0	0	0	3	3		
8:00	2	4	5	3	0	0	0	0	0	0	0	0	0	0	4	4		
8:15	4	1	4	5	0	0	0	0	0	0	0	0	0	0	4	3		
8:30	4	1	9	0	0	0	0	0	0	0	0	0	0	0	7	1		
8:45	5	1	1	1	0	0	0	0	0	0	0	0	0	0	3	1		
9:00	2	0	4	0	0	0	0	0	0	0	0	0	0	0	3	0		
9:15	5	0	7	0	0	0	0	0	0	0	0	0	0	0	6	0		
9:30	1	1	9	0	0	0	0	0	0	0	0	0	0	0	5	1		
9:45	5	0	5	2	0	0	0	0	0	0	0	0	0	0	5	1		
10:00	9	1	7	0	0	0	0	0	0	0	0	0	0	0	8	1		
10:15	8	0	6	0	0	0	0	0	0	0	0	0	0	0	7	0		
10:30	6	0	4	0	0	0	0	0	0	0	0	0	0	0	5	0		
10:45	7	0	1	0	0	0	0	0	0	0	0	0	0	0	4	0		
11:00	6	0	4	0	0	0	0	0	0	0	0	0	0	0	5	0		
11:15	5	1	7	0	0	0	0	0	0	0	0	0	0	0	6	1		
11:30	3	0	6	0	0	0	0	0	0	0	0	0	0	0	5	0		
11:45	12	0	10	0	0	0	0	0	0	0	0	0	0	0	11	0		
Total	90	173	95	192	0	0	0	0	0	0	0	0	0	0	93	183		
Day Total	263		287		0		0		0		0		0		275			
Peak HR	10:00 AM	4:30 PM	9:15 AM	12:45 PM													11:00 AM	4:15 PM
Volume	30	35	28	34													27	31

Forest Street
norht of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File #

207450 D

Count Date: Tuesday, February 4, 2020
Direction: NB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	2	0	0	2
12:15 AM	1	0	0	1
12:30 AM	1	0	0	1
12:45 AM	0	0	0	0
1:00 AM	1	0	0	1
1:15 AM	0	0	0	0
1:30 AM	0	0	0	0
1:45 AM	0	0	0	0
2:00 AM	1	0	0	1
2:15 AM	0	0	0	0
2:30 AM	0	0	0	0
2:45 AM	0	0	0	0
3:00 AM	0	1	0	1
3:15 AM	0	0	0	0
3:30 AM	0	0	0	0
3:45 AM	0	0	0	0
4:00 AM	0	0	0	0
4:15 AM	0	0	0	0
4:30 AM	1	0	0	1
4:45 AM	0	0	0	0
5:00 AM	1	0	0	1
5:15 AM	1	0	0	1
5:30 AM	6	0	0	6
5:45 AM	7	0	0	7
6:00 AM	5	0	0	5
6:15 AM	6	0	0	6
6:30 AM	13	0	0	13
6:45 AM	19	0	0	19
7:00 AM	20	0	0	20
7:15 AM	15	1	0	16
7:30 AM	48	3	1	52
7:45 AM	58	0	0	58
8:00 AM	54	0	0	54
8:15 AM	26	0	0	26
8:30 AM	26	2	0	28
8:45 AM	26	0	1	27
9:00 AM	15	1	0	16
9:15 AM	11	0	1	12
9:30 AM	22	1	0	23
9:45 AM	21	1	0	22
10:00 AM	21	0	0	21
10:15 AM	18	2	0	20
10:30 AM	23	0	0	23
10:45 AM	32	0	0	32
11:00 AM	23	1	0	24
11:15 AM	20	2	1	23
11:30 AM	20	2	0	22
11:45 AM	18	1	0	19

AM Total	582	18	4	604
Percentage	96.36%	2.98%	0.66%	
AM Peak	7:30 AM	11:00 AM	8:30 AM	7:30 AM
Volume	186	6	2	190

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	26	0	0	26
12:15 PM	20	1	0	21
12:30 PM	40	1	0	41
12:45 PM	43	0	0	43
1:00 PM	37	1	0	38
1:15 PM	59	1	0	60
1:30 PM	40	2	0	42
1:45 PM	73	1	0	74
2:00 PM	48	1	0	49
2:15 PM	66	1	0	67
2:30 PM	69	2	1	72
2:45 PM	44	1	0	45
3:00 PM	54	3	0	57
3:15 PM	43	2	0	45
3:30 PM	36	1	0	37
3:45 PM	47	2	0	49
4:00 PM	48	0	0	48
4:15 PM	61	1	0	62
4:30 PM	52	0	0	52
4:45 PM	42	1	0	43
5:00 PM	76	2	0	78
5:15 PM	80	0	0	80
5:30 PM	66	1	0	67
5:45 PM	64	0	0	64
6:00 PM	63	0	0	63
6:15 PM	50	0	0	50
6:30 PM	35	0	0	35
6:45 PM	36	0	0	36
7:00 PM	25	0	0	25
7:15 PM	19	0	0	19
7:30 PM	24	0	0	24
7:45 PM	30	0	0	30
8:00 PM	17	0	0	17
8:15 PM	20	0	0	20
8:30 PM	16	0	0	16
8:45 PM	15	0	0	15
9:00 PM	21	0	0	21
9:15 PM	16	0	0	16
9:30 PM	15	0	0	15
9:45 PM	9	0	0	9
10:00 PM	13	0	0	13
10:15 PM	6	0	0	6
10:30 PM	3	0	0	3
10:45 PM	4	0	0	4
11:00 PM	4	0	0	4
11:15 PM	0	0	0	0
11:30 PM	1	0	0	1
11:45 PM	3	0	0	3

PM Total	1679	25	1	1705
Percentage	98.48%	1.47%	0.06%	
PM Peak	5:00 PM	2:30 PM	1:45 PM	5:00 PM
Volume	286	8	1	289

Day Total	2261	43	5	2309
Percentage	97.92%	1.86%	0.22%	

Forest Street
norht of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File #

207450 D

Count Date: Wednesday, February 5, 2020
Direction: NB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	2	0	0	2
12:15 AM	1	0	0	1
12:30 AM	1	0	0	1
12:45 AM	0	0	0	0
1:00 AM	0	0	0	0
1:15 AM	0	0	0	0
1:30 AM	0	0	0	0
1:45 AM	0	0	0	0
2:00 AM	0	0	0	0
2:15 AM	0	0	0	0
2:30 AM	0	0	0	0
2:45 AM	0	0	0	0
3:00 AM	1	0	0	1
3:15 AM	0	0	0	0
3:30 AM	2	1	0	3
3:45 AM	0	0	0	0
4:00 AM	1	0	0	1
4:15 AM	0	0	0	0
4:30 AM	1	0	0	1
4:45 AM	1	0	0	1
5:00 AM	3	0	0	3
5:15 AM	4	0	0	4
5:30 AM	5	0	0	5
5:45 AM	2	0	0	2
6:00 AM	7	0	0	7
6:15 AM	6	1	0	7
6:30 AM	17	1	0	18
6:45 AM	18	5	0	23
7:00 AM	20	0	0	20
7:15 AM	19	0	0	19
7:30 AM	38	0	0	38
7:45 AM	57	0	0	57
8:00 AM	50	1	0	51
8:15 AM	41	1	0	42
8:30 AM	32	0	0	32
8:45 AM	27	1	0	28
9:00 AM	26	0	0	26
9:15 AM	12	0	0	12
9:30 AM	16	0	0	16
9:45 AM	17	0	0	17
10:00 AM	18	1	0	19
10:15 AM	15	0	0	15
10:30 AM	17	1	0	18
10:45 AM	18	2	0	20
11:00 AM	24	1	0	25
11:15 AM	16	1	0	17
11:30 AM	20	1	0	21
11:45 AM	20	0	0	20

AM Total	575	18	0	593
Percentage	96.96%	3.04%	0.00%	
AM Peak	7:30 AM	6:00 AM	12:00 AM	7:30 AM
Volume	186	7	0	188

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	26	2	0	28
12:15 PM	24	1	0	25
12:30 PM	24	2	0	26
12:45 PM	32	1	0	33
1:00 PM	29	1	0	30
1:15 PM	17	1	0	18
1:30 PM	21	2	0	23
1:45 PM	12	0	0	12
2:00 PM	25	1	0	26
2:15 PM	41	3	0	44
2:30 PM	48	1	1	50
2:45 PM	50	2	0	52
3:00 PM	61	1	0	62
3:15 PM	53	2	0	55
3:30 PM	69	0	0	69
3:45 PM	61	4	0	65
4:00 PM	58	0	0	58
4:15 PM	76	1	0	77
4:30 PM	64	0	0	64
4:45 PM	59	1	0	60
5:00 PM	67	0	0	67
5:15 PM	86	0	0	86
5:30 PM	87	1	0	88
5:45 PM	74	1	0	75
6:00 PM	50	0	0	50
6:15 PM	40	0	0	40
6:30 PM	32	0	0	32
6:45 PM	35	0	0	35
7:00 PM	24	0	0	24
7:15 PM	21	0	0	21
7:30 PM	26	0	0	26
7:45 PM	18	0	0	18
8:00 PM	22	0	0	22
8:15 PM	20	0	0	20
8:30 PM	24	0	0	24
8:45 PM	16	0	0	16
9:00 PM	16	0	0	16
9:15 PM	15	0	0	15
9:30 PM	7	0	0	7
9:45 PM	10	0	0	10
10:00 PM	2	0	0	2
10:15 PM	4	0	0	4
10:30 PM	4	0	0	4
10:45 PM	5	0	0	5
11:00 PM	1	0	0	1
11:15 PM	1	0	0	1
11:30 PM	4	0	0	4
11:45 PM	2	0	0	2

PM Total	1563	28	1	1592
Percentage	98.18%	1.76%	0.06%	
PM Peak	5:00 PM	2:00 PM	1:45 PM	5:00 PM
Volume	314	7	1	316

Day Total	2138	46	1	2185
Percentage	97.85%	2.11%	0.05%	505 of 820

Forest Street
norht of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File #

207450 D

Count Date: Tuesday, February 4, 2020
Direction: SB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0
12:15 AM	0	0	0	0
12:30 AM	2	0	0	2
12:45 AM	2	0	0	2
1:00 AM	0	0	0	0
1:15 AM	0	0	0	0
1:30 AM	0	0	0	0
1:45 AM	0	0	0	0
2:00 AM	1	0	0	1
2:15 AM	1	0	0	1
2:30 AM	0	0	0	0
2:45 AM	0	0	0	0
3:00 AM	0	0	0	0
3:15 AM	1	0	0	1
3:30 AM	0	0	0	0
3:45 AM	0	0	0	0
4:00 AM	1	0	0	1
4:15 AM	2	0	0	2
4:30 AM	3	0	0	3
4:45 AM	2	0	0	2
5:00 AM	0	0	0	0
5:15 AM	3	0	0	3
5:30 AM	5	0	0	5
5:45 AM	6	0	1	7
6:00 AM	10	0	0	10
6:15 AM	17	0	0	17
6:30 AM	20	2	0	22
6:45 AM	35	2	0	37
7:00 AM	66	4	0	70
7:15 AM	64	2	1	67
7:30 AM	76	1	0	77
7:45 AM	69	0	0	69
8:00 AM	77	2	0	79
8:15 AM	55	1	0	56
8:30 AM	41	2	0	43
8:45 AM	39	2	0	41
9:00 AM	27	0	0	27
9:15 AM	34	0	0	34
9:30 AM	20	1	0	21
9:45 AM	22	0	1	23
10:00 AM	22	0	0	22
10:15 AM	22	1	0	23
10:30 AM	21	2	0	23
10:45 AM	21	1	0	22
11:00 AM	19	2	0	21
11:15 AM	25	4	0	29
11:30 AM	16	0	0	16
11:45 AM	12	2	1	15

AM Total	859	31	4	894
Percentage	96.09%	3.47%	0.45%	
AM Peak	7:15 AM	6:30 AM	5:00 AM	7:15 AM
Volume	286	10	1	292

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	18	0	0	18
12:15 PM	30	0	0	30
12:30 PM	22	1	0	23
12:45 PM	22	1	0	23
1:00 PM	23	1	0	24
1:15 PM	22	1	0	23
1:30 PM	21	0	1	22
1:45 PM	22	0	0	22
2:00 PM	19	0	1	20
2:15 PM	24	2	0	26
2:30 PM	27	3	0	30
2:45 PM	25	0	0	25
3:00 PM	25	1	0	26
3:15 PM	18	4	0	22
3:30 PM	19	1	0	20
3:45 PM	17	0	0	17
4:00 PM	33	0	0	33
4:15 PM	25	0	0	25
4:30 PM	32	0	0	32
4:45 PM	33	0	0	33
5:00 PM	28	0	0	28
5:15 PM	24	0	0	24
5:30 PM	22	0	0	22
5:45 PM	32	0	0	32
6:00 PM	27	1	0	28
6:15 PM	29	0	0	29
6:30 PM	27	0	0	27
6:45 PM	20	0	0	20
7:00 PM	17	0	0	17
7:15 PM	17	0	0	17
7:30 PM	14	0	0	14
7:45 PM	10	0	0	10
8:00 PM	14	0	0	14
8:15 PM	21	0	0	21
8:30 PM	14	0	0	14
8:45 PM	9	0	0	9
9:00 PM	8	2	0	10
9:15 PM	9	0	0	9
9:30 PM	4	0	0	4
9:45 PM	4	0	0	4
10:00 PM	6	0	0	6
10:15 PM	5	0	0	5
10:30 PM	3	0	0	3
10:45 PM	6	0	0	6
11:00 PM	1	0	0	1
11:15 PM	0	0	0	0
11:30 PM	3	0	0	3
11:45 PM	3	0	0	3

PM Total	854	18	2	874
Percentage	97.71%	2.06%	0.23%	
PM Peak	4:00 PM	2:30 PM	1:15 PM	4:00 PM
Volume	123	8	2	123

Day Total	1713	49	6	1768
Percentage	96.89%	2.77%	0.34%	506 of 820

Forest Street
norht of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File #

207450 D

Count Date: Wednesday, February 5, 2020
Direction: SB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0
12:15 AM	2	0	0	2
12:30 AM	2	0	0	2
12:45 AM	2	0	0	2
1:00 AM	2	0	0	2
1:15 AM	0	0	0	0
1:30 AM	0	0	0	0
1:45 AM	0	0	0	0
2:00 AM	1	0	0	1
2:15 AM	0	0	0	0
2:30 AM	0	0	0	0
2:45 AM	0	0	0	0
3:00 AM	0	0	0	0
3:15 AM	0	0	0	0
3:30 AM	0	0	0	0
3:45 AM	1	0	0	1
4:00 AM	1	0	0	1
4:15 AM	2	0	0	2
4:30 AM	4	0	0	4
4:45 AM	1	0	0	1
5:00 AM	1	0	0	1
5:15 AM	2	0	0	2
5:30 AM	6	0	0	6
5:45 AM	9	0	0	9
6:00 AM	10	0	0	10
6:15 AM	21	0	0	21
6:30 AM	21	4	0	25
6:45 AM	40	4	0	44
7:00 AM	58	3	0	61
7:15 AM	63	0	0	63
7:30 AM	86	0	0	86
7:45 AM	70	1	0	71
8:00 AM	77	4	0	81
8:15 AM	63	0	0	63
8:30 AM	51	0	0	51
8:45 AM	35	0	0	35
9:00 AM	24	1	0	25
9:15 AM	18	0	0	18
9:30 AM	23	0	0	23
9:45 AM	24	0	0	24
10:00 AM	18	0	0	18
10:15 AM	16	2	0	18
10:30 AM	19	0	0	19
10:45 AM	17	1	0	18
11:00 AM	13	0	0	13
11:15 AM	29	2	0	31
11:30 AM	23	1	0	24
11:45 AM	22	4	0	26

AM Total	877	27	0	904
Percentage	97.01%	2.99%	0.00%	
AM Peak	7:15 AM	6:15 AM	12:00 AM	7:15 AM
Volume	296	11	0	301

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	27	1	0	28
12:15 PM	31	1	0	32
12:30 PM	24	1	0	25
12:45 PM	21	1	1	23
1:00 PM	19	0	0	19
1:15 PM	17	0	0	17
1:30 PM	18	1	0	19
1:45 PM	23	2	0	25
2:00 PM	18	3	0	21
2:15 PM	25	0	0	25
2:30 PM	22	0	0	22
2:45 PM	35	1	0	36
3:00 PM	24	0	0	24
3:15 PM	22	2	0	24
3:30 PM	25	1	0	26
3:45 PM	25	1	0	26
4:00 PM	29	1	0	30
4:15 PM	25	0	0	25
4:30 PM	32	0	0	32
4:45 PM	28	0	0	28
5:00 PM	37	0	0	37
5:15 PM	16	0	0	16
5:30 PM	38	1	0	39
5:45 PM	47	0	0	47
6:00 PM	53	1	0	54
6:15 PM	24	0	0	24
6:30 PM	26	0	0	26
6:45 PM	21	0	0	21
7:00 PM	11	0	0	11
7:15 PM	17	0	0	17
7:30 PM	11	0	0	11
7:45 PM	15	0	0	15
8:00 PM	22	1	0	23
8:15 PM	7	0	0	7
8:30 PM	9	0	0	9
8:45 PM	10	0	0	10
9:00 PM	12	0	0	12
9:15 PM	4	0	0	4
9:30 PM	4	0	0	4
9:45 PM	7	0	0	7
10:00 PM	1	0	0	1
10:15 PM	3	0	0	3
10:30 PM	1	0	0	1
10:45 PM	4	0	0	4
11:00 PM	1	0	0	1
11:15 PM	0	0	0	0
11:30 PM	2	0	0	2
11:45 PM	4	0	0	4

PM Total	897	19	1	917
Percentage	97.82%	2.07%	0.11%	
PM Peak	5:30 PM	1:15 PM	12:00 PM	5:30 PM
Volume	162	6	1	164

Day Total	1774	46	1	1821
Percentage	97.42%	2.53%	0.05%	507 of 826

Forest Street
norht of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File # 207450 D

Direction: NB

Weekly Report

Day Date	Tuesday 02/04/20		Wednesday 02/05/20												Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	2	26	2	28	0	0	0	0	0	0	0	0	0	0	2	27
12:15	1	21	1	25	0	0	0	0	0	0	0	0	0	0	1	23
12:30	1	41	1	26	0	0	0	0	0	0	0	0	0	0	1	34
12:45	0	43	0	33	0	0	0	0	0	0	0	0	0	0	0	38
1:00	1	38	0	30	0	0	0	0	0	0	0	0	0	0	1	34
1:15	0	60	0	18	0	0	0	0	0	0	0	0	0	0	0	39
1:30	0	42	0	23	0	0	0	0	0	0	0	0	0	0	0	33
1:45	0	74	0	12	0	0	0	0	0	0	0	0	0	0	0	43
2:00	1	49	0	26	0	0	0	0	0	0	0	0	0	0	1	38
2:15	0	67	0	44	0	0	0	0	0	0	0	0	0	0	0	56
2:30	0	72	0	50	0	0	0	0	0	0	0	0	0	0	0	61
2:45	0	45	0	52	0	0	0	0	0	0	0	0	0	0	0	49
3:00	1	57	1	62	0	0	0	0	0	0	0	0	0	0	1	60
3:15	0	45	0	55	0	0	0	0	0	0	0	0	0	0	0	50
3:30	0	37	3	69	0	0	0	0	0	0	0	0	0	0	2	53
3:45	0	49	0	65	0	0	0	0	0	0	0	0	0	0	0	57
4:00	0	48	1	58	0	0	0	0	0	0	0	0	0	0	1	53
4:15	0	62	0	77	0	0	0	0	0	0	0	0	0	0	0	70
4:30	1	52	1	64	0	0	0	0	0	0	0	0	0	0	1	58
4:45	0	43	1	60	0	0	0	0	0	0	0	0	0	0	1	52
5:00	1	78	3	67	0	0	0	0	0	0	0	0	0	0	2	73
5:15	1	80	4	86	0	0	0	0	0	0	0	0	0	0	3	83
5:30	6	67	5	88	0	0	0	0	0	0	0	0	0	0	6	78
5:45	7	64	2	75	0	0	0	0	0	0	0	0	0	0	5	70
6:00	5	63	7	50	0	0	0	0	0	0	0	0	0	0	6	57
6:15	6	50	7	40	0	0	0	0	0	0	0	0	0	0	7	45
6:30	13	35	18	32	0	0	0	0	0	0	0	0	0	0	16	34
6:45	19	36	23	35	0	0	0	0	0	0	0	0	0	0	21	36
7:00	20	25	20	24	0	0	0	0	0	0	0	0	0	0	20	25
7:15	16	19	19	21	0	0	0	0	0	0	0	0	0	0	18	20
7:30	52	24	38	26	0	0	0	0	0	0	0	0	0	0	45	25
7:45	58	30	57	18	0	0	0	0	0	0	0	0	0	0	58	24
8:00	54	17	51	22	0	0	0	0	0	0	0	0	0	0	53	20
8:15	26	20	42	20	0	0	0	0	0	0	0	0	0	0	34	20
8:30	28	16	32	24	0	0	0	0	0	0	0	0	0	0	30	20
8:45	27	15	28	16	0	0	0	0	0	0	0	0	0	0	28	16
9:00	16	21	26	16	0	0	0	0	0	0	0	0	0	0	21	19
9:15	12	16	12	15	0	0	0	0	0	0	0	0	0	0	12	16
9:30	23	15	16	7	0	0	0	0	0	0	0	0	0	0	20	11
9:45	22	9	17	10	0	0	0	0	0	0	0	0	0	0	20	10
10:00	21	13	19	2	0	0	0	0	0	0	0	0	0	0	20	8
10:15	20	6	15	4	0	0	0	0	0	0	0	0	0	0	18	5
10:30	23	3	18	4	0	0	0	0	0	0	0	0	0	0	21	4
10:45	32	4	20	5	0	0	0	0	0	0	0	0	0	0	26	5
11:00	24	4	25	1	0	0	0	0	0	0	0	0	0	0	25	3
11:15	23	0	17	1	0	0	0	0	0	0	0	0	0	0	20	1
11:30	22	1	21	4	0	0	0	0	0	0	0	0	0	0	22	3
11:45	19	3	20	2	0	0	0	0	0	0	0	0	0	0	20	3
Total	604	1705	593	1592	0	0	0	0	0	0	0	0	0	0	599	1649
Day Total	2309		2185		0		0		0		0		0		2247	
Peak HR	7:30 AM	5:00 PM	7:30 AM	5:00 PM												
Volume	190	289	188	316											189	303

Forest Street
norht of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File # 207450 D

Direction: SB

Weekly Report

Day Date	Tuesday 02/04/20		Wednesday 02/05/20												Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	0	18	0	28	0	0	0	0	0	0	0	0	0	0	0	23
12:15	0	30	2	32	0	0	0	0	0	0	0	0	0	0	1	31
12:30	2	23	2	25	0	0	0	0	0	0	0	0	0	0	2	24
12:45	2	23	2	23	0	0	0	0	0	0	0	0	0	0	2	23
1:00	0	24	2	19	0	0	0	0	0	0	0	0	0	0	1	22
1:15	0	23	0	17	0	0	0	0	0	0	0	0	0	0	0	20
1:30	0	22	0	19	0	0	0	0	0	0	0	0	0	0	0	21
1:45	0	22	0	25	0	0	0	0	0	0	0	0	0	0	0	24
2:00	1	20	1	21	0	0	0	0	0	0	0	0	0	0	1	21
2:15	1	26	0	25	0	0	0	0	0	0	0	0	0	0	1	26
2:30	0	30	0	22	0	0	0	0	0	0	0	0	0	0	0	26
2:45	0	25	0	36	0	0	0	0	0	0	0	0	0	0	0	31
3:00	0	26	0	24	0	0	0	0	0	0	0	0	0	0	0	25
3:15	1	22	0	24	0	0	0	0	0	0	0	0	0	0	1	23
3:30	0	20	0	26	0	0	0	0	0	0	0	0	0	0	0	23
3:45	0	17	1	26	0	0	0	0	0	0	0	0	0	0	1	22
4:00	1	33	1	30	0	0	0	0	0	0	0	0	0	0	1	32
4:15	2	25	2	25	0	0	0	0	0	0	0	0	0	0	2	25
4:30	3	32	4	32	0	0	0	0	0	0	0	0	0	0	4	32
4:45	2	33	1	28	0	0	0	0	0	0	0	0	0	0	2	31
5:00	0	28	1	37	0	0	0	0	0	0	0	0	0	0	1	33
5:15	3	24	2	16	0	0	0	0	0	0	0	0	0	0	3	20
5:30	5	22	6	39	0	0	0	0	0	0	0	0	0	0	6	31
5:45	7	32	9	47	0	0	0	0	0	0	0	0	0	0	8	40
6:00	10	28	10	54	0	0	0	0	0	0	0	0	0	0	10	41
6:15	17	29	21	24	0	0	0	0	0	0	0	0	0	0	19	27
6:30	22	27	25	26	0	0	0	0	0	0	0	0	0	0	24	27
6:45	37	20	44	21	0	0	0	0	0	0	0	0	0	0	41	21
7:00	70	17	61	11	0	0	0	0	0	0	0	0	0	0	66	14
7:15	67	17	63	17	0	0	0	0	0	0	0	0	0	0	65	17
7:30	77	14	86	11	0	0	0	0	0	0	0	0	0	0	82	13
7:45	69	10	71	15	0	0	0	0	0	0	0	0	0	0	70	13
8:00	79	14	81	23	0	0	0	0	0	0	0	0	0	0	80	19
8:15	56	21	63	7	0	0	0	0	0	0	0	0	0	0	60	14
8:30	43	14	51	9	0	0	0	0	0	0	0	0	0	0	47	12
8:45	41	9	35	10	0	0	0	0	0	0	0	0	0	0	38	10
9:00	27	10	25	12	0	0	0	0	0	0	0	0	0	0	26	11
9:15	34	9	18	4	0	0	0	0	0	0	0	0	0	0	26	7
9:30	21	4	23	4	0	0	0	0	0	0	0	0	0	0	22	4
9:45	23	4	24	7	0	0	0	0	0	0	0	0	0	0	24	6
10:00	22	6	18	1	0	0	0	0	0	0	0	0	0	0	20	4
10:15	23	5	18	3	0	0	0	0	0	0	0	0	0	0	21	4
10:30	23	3	19	1	0	0	0	0	0	0	0	0	0	0	21	2
10:45	22	6	18	4	0	0	0	0	0	0	0	0	0	0	20	5
11:00	21	1	13	1	0	0	0	0	0	0	0	0	0	0	17	1
11:15	29	0	31	0	0	0	0	0	0	0	0	0	0	0	30	0
11:30	16	3	24	2	0	0	0	0	0	0	0	0	0	0	20	3
11:45	15	3	26	4	0	0	0	0	0	0	0	0	0	0	21	4
Total	894	874	904	917	0	0	0	0	0	0	0	0	0	0	899	896
Day Total	1768		1821		0		0		0		0		0		1795	
Peak HR	7:15 AM	4:00 PM	7:15 AM	5:30 PM											7:15 AM	5:30 PM
Volume	292	123	301	164											297	138

Burton Street
south of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File #

207450 E

Count Date: Tuesday, February 4, 2020
Direction: EB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0
12:15 AM	0	0	0	0
12:30 AM	0	0	0	0
12:45 AM	0	0	0	0
1:00 AM	0	0	0	0
1:15 AM	0	0	0	0
1:30 AM	0	0	0	0
1:45 AM	0	0	0	0
2:00 AM	0	0	0	0
2:15 AM	0	0	0	0
2:30 AM	0	0	0	0
2:45 AM	0	0	0	0
3:00 AM	0	0	0	0
3:15 AM	0	0	0	0
3:30 AM	0	0	0	0
3:45 AM	0	0	0	0
4:00 AM	0	0	0	0
4:15 AM	0	0	0	0
4:30 AM	0	0	0	0
4:45 AM	0	0	0	0
5:00 AM	0	0	0	0
5:15 AM	0	0	0	0
5:30 AM	0	0	0	0
5:45 AM	0	0	0	0
6:00 AM	0	0	0	0
6:15 AM	0	0	0	0
6:30 AM	0	0	0	0
6:45 AM	0	0	0	0
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
9:00 AM	0	0	0	0
9:15 AM	0	0	0	0
9:30 AM	0	0	0	0
9:45 AM	0	0	0	0
10:00 AM	0	0	0	0
10:15 AM	0	0	0	0
10:30 AM	0	0	0	0
10:45 AM	0	0	0	0
11:00 AM	0	0	0	0
11:15 AM	0	0	0	0
11:30 AM	0	0	0	0
11:45 AM	0	0	0	0

AM Total	0	0	0	0
Percentage	#DIV/0!	#DIV/0!	#DIV/0!	
AM Peak	12:00 AM	12:00 AM	12:00 AM	12:00 AM
Volume	0	0	0	0

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	0	0
12:15 PM	0	0	0	0
12:30 PM	0	0	0	0
12:45 PM	0	0	0	0
1:00 PM	0	0	0	0
1:15 PM	0	0	0	0
1:30 PM	0	0	0	0
1:45 PM	0	0	0	0
2:00 PM	0	0	0	0
2:15 PM	0	0	0	0
2:30 PM	0	0	0	0
2:45 PM	0	0	0	0
3:00 PM	0	0	0	0
3:15 PM	0	0	0	0
3:30 PM	0	0	0	0
3:45 PM	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
6:00 PM	0	0	0	0
6:15 PM	0	0	0	0
6:30 PM	0	0	0	0
6:45 PM	0	0	0	0
7:00 PM	0	0	0	0
7:15 PM	0	0	0	0
7:30 PM	0	0	0	0
7:45 PM	0	0	0	0
8:00 PM	0	0	0	0
8:15 PM	0	0	0	0
8:30 PM	0	0	0	0
8:45 PM	0	0	0	0
9:00 PM	0	0	0	0
9:15 PM	0	0	0	0
9:30 PM	0	0	0	0
9:45 PM	0	0	0	0
10:00 PM	0	0	0	0
10:15 PM	0	0	0	0
10:30 PM	0	0	0	0
10:45 PM	0	0	0	0
11:00 PM	0	0	0	0
11:15 PM	0	0	0	0
11:30 PM	0	0	0	0
11:45 PM	0	0	0	0

PM Total	0	0	0	0
Percentage	#DIV/0!	#DIV/0!	#DIV/0!	
PM Peak	12:00 PM	12:00 PM	12:00 PM	12:00 PM
Volume	0	0	0	0

Day Total	0	0	0	0
Percentage	#DIV/0!	#DIV/0!	510	8126

Burton Street
south of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



Count Date: Wednesday, February 5, 2020
Direction: EB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total	PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	12:00 PM	0	0	0	0
12:15 AM	0	0	0	0	12:15 PM	0	0	0	0
12:30 AM	0	0	0	0	12:30 PM	0	0	0	0
12:45 AM	0	0	0	0	12:45 PM	0	0	0	0
1:00 AM	0	0	0	0	1:00 PM	0	0	0	0
1:15 AM	0	0	0	0	1:15 PM	0	0	0	0
1:30 AM	0	0	0	0	1:30 PM	0	0	0	0
1:45 AM	0	0	0	0	1:45 PM	0	0	0	0
2:00 AM	0	0	0	0	2:00 PM	0	0	0	0
2:15 AM	0	0	0	0	2:15 PM	0	0	0	0
2:30 AM	0	0	0	0	2:30 PM	0	0	0	0
2:45 AM	0	0	0	0	2:45 PM	0	0	0	0
3:00 AM	0	0	0	0	3:00 PM	0	0	0	0
3:15 AM	0	0	0	0	3:15 PM	0	0	0	0
3:30 AM	0	0	0	0	3:30 PM	0	0	0	0
3:45 AM	0	0	0	0	3:45 PM	0	0	0	0
4:00 AM	0	0	0	0	4:00 PM	0	0	0	0
4:15 AM	0	0	0	0	4:15 PM	0	0	0	0
4:30 AM	0	0	0	0	4:30 PM	0	0	0	0
4:45 AM	0	0	0	0	4:45 PM	0	0	0	0
5:00 AM	0	0	0	0	5:00 PM	0	0	0	0
5:15 AM	0	0	0	0	5:15 PM	0	0	0	0
5:30 AM	0	0	0	0	5:30 PM	0	0	0	0
5:45 AM	0	0	0	0	5:45 PM	0	0	0	0
6:00 AM	0	0	0	0	6:00 PM	0	0	0	0
6:15 AM	0	0	0	0	6:15 PM	0	0	0	0
6:30 AM	0	0	0	0	6:30 PM	0	0	0	0
6:45 AM	0	0	0	0	6:45 PM	0	0	0	0
7:00 AM	0	0	0	0	7:00 PM	0	0	0	0
7:15 AM	0	0	0	0	7:15 PM	0	0	0	0
7:30 AM	0	0	0	0	7:30 PM	0	0	0	0
7:45 AM	0	0	0	0	7:45 PM	0	0	0	0
8:00 AM	0	0	0	0	8:00 PM	0	0	0	0
8:15 AM	0	0	0	0	8:15 PM	0	0	0	0
8:30 AM	0	0	0	0	8:30 PM	0	0	0	0
8:45 AM	0	0	0	0	8:45 PM	0	0	0	0
9:00 AM	0	0	0	0	9:00 PM	0	0	0	0
9:15 AM	0	0	0	0	9:15 PM	0	0	0	0
9:30 AM	0	0	0	0	9:30 PM	0	0	0	0
9:45 AM	0	0	0	0	9:45 PM	0	0	0	0
10:00 AM	0	0	0	0	10:00 PM	0	0	0	0
10:15 AM	0	0	0	0	10:15 PM	0	0	0	0
10:30 AM	0	0	0	0	10:30 PM	0	0	0	0
10:45 AM	0	0	0	0	10:45 PM	0	0	0	0
11:00 AM	0	0	0	0	11:00 PM	0	0	0	0
11:15 AM	0	0	0	0	11:15 PM	0	0	0	0
11:30 AM	0	0	0	0	11:30 PM	0	0	0	0
11:45 AM	0	0	0	0	11:45 PM	0	0	0	0
AM Total	0	0	0	0	PM Total	0	0	0	0
Percentage	#DIV/0!	#DIV/0!	#DIV/0!		Percentage	#DIV/0!	#DIV/0!	#DIV/0!	
AM Peak	12:00 AM	12:00 AM	12:00 AM	12:00 AM	PM Peak	12:00 PM	12:00 PM	12:00 PM	12:00 PM
Volume	0	0	0	0	Volume	0	0	0	0
Day Total					Day Total	0	0	0	0
Percentage	#DIV/0!	#DIV/0!	#DIV/0!		Percentage	#DIV/0!	#DIV/0!	#DIV/0!	

Burton Street
south of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



Count Date: Tuesday, February 4, 2020
Direction: WB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total	PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0	12:00 PM	0	0	0	0
12:15 AM	0	0	0	0	12:15 PM	0	0	0	0
12:30 AM	0	0	0	0	12:30 PM	0	0	0	0
12:45 AM	0	0	0	0	12:45 PM	0	0	0	0
1:00 AM	0	0	0	0	1:00 PM	0	0	0	0
1:15 AM	0	0	0	0	1:15 PM	0	0	0	0
1:30 AM	0	0	0	0	1:30 PM	0	0	0	0
1:45 AM	0	0	0	0	1:45 PM	0	0	0	0
2:00 AM	0	0	0	0	2:00 PM	0	0	0	0
2:15 AM	0	0	0	0	2:15 PM	0	0	0	0
2:30 AM	0	0	0	0	2:30 PM	0	0	0	0
2:45 AM	0	0	0	0	2:45 PM	0	0	0	0
3:00 AM	0	0	0	0	3:00 PM	0	0	0	0
3:15 AM	0	0	0	0	3:15 PM	0	0	0	0
3:30 AM	0	0	0	0	3:30 PM	0	0	0	0
3:45 AM	0	0	0	0	3:45 PM	0	0	0	0
4:00 AM	0	0	0	0	4:00 PM	0	0	0	0
4:15 AM	0	0	0	0	4:15 PM	0	0	0	0
4:30 AM	0	0	0	0	4:30 PM	0	0	0	0
4:45 AM	0	0	0	0	4:45 PM	0	0	0	0
5:00 AM	0	0	0	0	5:00 PM	0	0	0	0
5:15 AM	0	0	0	0	5:15 PM	0	0	0	0
5:30 AM	0	0	0	0	5:30 PM	0	0	0	0
5:45 AM	0	0	0	0	5:45 PM	0	0	0	0
6:00 AM	0	0	0	0	6:00 PM	0	0	0	0
6:15 AM	0	0	0	0	6:15 PM	0	0	0	0
6:30 AM	0	0	0	0	6:30 PM	0	0	0	0
6:45 AM	0	0	0	0	6:45 PM	0	0	0	0
7:00 AM	0	0	0	0	7:00 PM	0	0	0	0
7:15 AM	0	0	0	0	7:15 PM	0	0	0	0
7:30 AM	0	0	0	0	7:30 PM	0	0	0	0
7:45 AM	0	0	0	0	7:45 PM	0	0	0	0
8:00 AM	0	0	0	0	8:00 PM	0	0	0	0
8:15 AM	0	0	0	0	8:15 PM	0	0	0	0
8:30 AM	0	0	0	0	8:30 PM	0	0	0	0
8:45 AM	0	0	0	0	8:45 PM	0	0	0	0
9:00 AM	0	0	0	0	9:00 PM	0	0	0	0
9:15 AM	0	0	0	0	9:15 PM	0	0	0	0
9:30 AM	0	0	0	0	9:30 PM	0	0	0	0
9:45 AM	0	0	0	0	9:45 PM	0	0	0	0
10:00 AM	0	0	0	0	10:00 PM	0	0	0	0
10:15 AM	0	0	0	0	10:15 PM	0	0	0	0
10:30 AM	0	0	0	0	10:30 PM	0	0	0	0
10:45 AM	0	0	0	0	10:45 PM	0	0	0	0
11:00 AM	0	0	0	0	11:00 PM	0	0	0	0
11:15 AM	0	0	0	0	11:15 PM	0	0	0	0
11:30 AM	0	0	0	0	11:30 PM	0	0	0	0
11:45 AM	0	0	0	0	11:45 PM	0	0	0	0
AM Total	0	0	0	0	PM Total	0	0	0	0
Percentage	#DIV/0!	#DIV/0!	#DIV/0!		Percentage	#DIV/0!	#DIV/0!	#DIV/0!	
AM Peak	12:00 AM	12:00 AM	12:00 AM	12:00 AM	PM Peak	12:00 PM	12:00 PM	12:00 PM	12:00 PM
Volume	0	0	0	0	Volume	0	0	0	0
Day Total					Day Total	0	0	0	0
Percentage	#DIV/0!	#DIV/0!	#DIV/0!		Percentage	#DIV/0!	#DIV/0!	#DIV/0!	

Burton Street
south of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File #

207450 E

Count Date: Wednesday, February 5, 2020
Direction: WB

AM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 AM	0	0	0	0
12:15 AM	0	0	0	0
12:30 AM	0	0	0	0
12:45 AM	0	0	0	0
1:00 AM	0	0	0	0
1:15 AM	0	0	0	0
1:30 AM	0	0	0	0
1:45 AM	0	0	0	0
2:00 AM	0	0	0	0
2:15 AM	0	0	0	0
2:30 AM	0	0	0	0
2:45 AM	0	0	0	0
3:00 AM	0	0	0	0
3:15 AM	0	0	0	0
3:30 AM	0	0	0	0
3:45 AM	0	0	0	0
4:00 AM	0	0	0	0
4:15 AM	0	0	0	0
4:30 AM	0	0	0	0
4:45 AM	0	0	0	0
5:00 AM	0	0	0	0
5:15 AM	0	0	0	0
5:30 AM	0	0	0	0
5:45 AM	0	0	0	0
6:00 AM	0	0	0	0
6:15 AM	0	0	0	0
6:30 AM	0	0	0	0
6:45 AM	0	0	0	0
7:00 AM	0	0	0	0
7:15 AM	0	0	0	0
7:30 AM	0	0	0	0
7:45 AM	0	0	0	0
8:00 AM	0	0	0	0
8:15 AM	0	0	0	0
8:30 AM	0	0	0	0
8:45 AM	0	0	0	0
9:00 AM	0	0	0	0
9:15 AM	0	0	0	0
9:30 AM	0	0	0	0
9:45 AM	0	0	0	0
10:00 AM	0	0	0	0
10:15 AM	0	0	0	0
10:30 AM	0	0	0	0
10:45 AM	0	0	0	0
11:00 AM	0	0	0	0
11:15 AM	0	0	0	0
11:30 AM	0	0	0	0
11:45 AM	0	0	0	0

AM Total	0	0	0	0
Percentage	#DIV/0!	#DIV/0!	#DIV/0!	
AM Peak	12:00 AM	12:00 AM	12:00 AM	12:00 AM
Volume	0	0	0	0

PM	Cars	Single Unit Heavy	Multi Unit Heavy	Total
12:00 PM	0	0	0	0
12:15 PM	0	0	0	0
12:30 PM	0	0	0	0
12:45 PM	0	0	0	0
1:00 PM	0	0	0	0
1:15 PM	0	0	0	0
1:30 PM	0	0	0	0
1:45 PM	0	0	0	0
2:00 PM	0	0	0	0
2:15 PM	0	0	0	0
2:30 PM	0	0	0	0
2:45 PM	0	0	0	0
3:00 PM	0	0	0	0
3:15 PM	0	0	0	0
3:30 PM	0	0	0	0
3:45 PM	0	0	0	0
4:00 PM	0	0	0	0
4:15 PM	0	0	0	0
4:30 PM	0	0	0	0
4:45 PM	0	0	0	0
5:00 PM	0	0	0	0
5:15 PM	0	0	0	0
5:30 PM	0	0	0	0
5:45 PM	0	0	0	0
6:00 PM	0	0	0	0
6:15 PM	0	0	0	0
6:30 PM	0	0	0	0
6:45 PM	0	0	0	0
7:00 PM	0	0	0	0
7:15 PM	0	0	0	0
7:30 PM	0	0	0	0
7:45 PM	0	0	0	0
8:00 PM	0	0	0	0
8:15 PM	0	0	0	0
8:30 PM	0	0	0	0
8:45 PM	0	0	0	0
9:00 PM	0	0	0	0
9:15 PM	0	0	0	0
9:30 PM	0	0	0	0
9:45 PM	0	0	0	0
10:00 PM	0	0	0	0
10:15 PM	0	0	0	0
10:30 PM	0	0	0	0
10:45 PM	0	0	0	0
11:00 PM	0	0	0	0
11:15 PM	0	0	0	0
11:30 PM	0	0	0	0
11:45 PM	0	0	0	0

PM Total	0	0	0	0
Percentage	#DIV/0!	#DIV/0!	#DIV/0!	
PM Peak	12:00 PM	12:00 PM	12:00 PM	12:00 PM
Volume	0	0	0	0

Day Total	0	0	0	0
Percentage	#DIV/0!	#DIV/0!	513#DIV/0!	8126

Burton Street
south of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File # 207450 E

Direction: EB

Weekly Report

Day Date	Tuesday 02/04/20		Wednesday 02/05/20												Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Day Total	0		0		0		0		0		0		0		0	
Peak HR	12:00 AM	12:00 PM	12:00 AM	12:00 PM											12:00 AM	12:00 PM
Volume	0	0	0	0											0	0

Burton Street
south of Massachusetts Ave
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD



PDI File # 207450 E

Direction: WB

Weekly Report

Day Date	Tuesday 02/04/20		Wednesday 02/05/20												Week Ave	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Day Total	0		0		0		0		0		0		0		0	
Peak HR	12:00 AM	12:00 PM	12:00 AM	12:00 PM											12:00 AM	12:00 PM
Volume	0	0	0	0											0	0



Location Map: 207450 Arlington, MA

Precision Data Industries, LLC 46 Morton Street, Framingham, MA 01702 ph: 508-875-0100 email: datarequests@pdillc.com



Client: Nitsch Engineering	Engineer: B. Zimolka	Site Code: TBD	Date: Tues 2/4-Wed 2/5/20	PDI Job # 207450	City, State: Arlington, MA
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PDI File #: 207450 A
Location: N: Driveway S: Appleton Place
Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD
Count Date: Tuesday, February 4, 2020
Start Time: 7:00 AM
End Time: 9:00 AM
Class:

PRECISION
DATA
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total
	from North						from East						from South						from Southwest						from West						
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	72	61	0	0	133	2	0	3	3	0	8	0	22	0	1	0	23	2	1	83	0	0	86	250
7:15 AM	0	0	0	0	0	0	0	72	54	1	0	127	2	0	2	1	0	5	1	24	0	2	0	27	6	1	95	0	0	102	261
7:30 AM	0	0	0	0	0	0	0	71	76	0	0	147	4	0	1	1	0	6	1	31	0	2	0	34	6	5	84	0	0	95	282
7:45 AM	0	0	0	0	0	0	0	88	61	5	0	154	7	0	6	29	0	42	6	31	0	3	0	40	16	7	103	0	0	126	362
Total	0	0	0	0	0	0	0	303	252	6	0	561	15	0	12	34	0	61	8	108	0	8	0	124	30	14	365	0	0	409	1155
8:00 AM	0	0	0	0	0	0	0	117	65	4	0	186	4	0	3	4	0	11	0	46	0	1	0	47	4	2	66	0	0	72	316
8:15 AM	0	0	0	0	0	0	0	73	63	2	0	138	3	0	1	1	0	5	1	37	0	0	0	38	4	1	78	0	0	83	264
8:30 AM	0	0	0	0	0	0	0	72	51	3	0	126	2	0	0	4	0	6	1	29	0	5	0	35	5	0	84	0	0	89	256
8:45 AM	0	0	0	0	0	0	0	92	47	3	0	142	0	0	2	1	0	3	0	30	0	2	0	32	1	3	83	1	0	88	265
Total	0	0	0	0	0	0	0	354	226	12	0	592	9	0	6	10	0	25	2	142	0	8	0	152	14	6	311	1	0	332	1101
Grand Total	0	0	0	0	0	0	0	657	478	18	0	1153	24	0	18	44	0	86	10	250	0	16	0	276	44	20	676	1	0	741	2256
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	57.0	41.5	1.6	0.0		27.9	0.0	20.9	51.2	0.0		3.6	90.6	0.0	5.8	0.0		5.9	2.7	91.2	0.1	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.1	21.2	0.8	0.0	51.1	1.1	0.0	0.8	2.0	0.0	3.8	0.4	11.1	0.0	0.7	0.0	12.2	2.0	0.9	30.0	0.0	0.0	32.8	
Exiting Leg Total	1						950						48						566						691						2256
Cars	0	0	0	0	0	0	0	600	465	18	0	1083	24	0	17	41	0	82	9	247	0	15	0	271	43	19	613	1	0	676	2112
% Cars	0.0	0.0	0.0	0.0	0.0	0.0	0.0	91.3	97.3	100.0	0.0	93.9	100.0	0.0	94.4	93.2	0.0	95.3	90.0	98.8	0.0	93.8	0.0	98.2	97.7	95.0	90.7	100.0	0.0	91.2	93.6
Exiting Leg Total	1						884						46						549						632						2112
Heavy Vehicles	0	0	0	0	0	0	0	57	13	0	0	70	0	0	1	3	0	4	1	3	0	1	0	5	1	1	63	0	0	65	144
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.7	2.7	0.0	0.0	6.1	0.0	0.0	5.6	6.8	0.0	4.7	10.0	1.2	0.0	6.3	0.0	1.8	2.3	5.0	9.3	0.0	0.0	8.8	6.4
Exiting Leg Total	0						66						2						17						59						144

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue											
	from North						from East						from South						from Southwest						from West											
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total						
7:30 AM	0	0	0	0	0	0	0	71	76	0	0	147	4	0	1	1	0	6	1	31	0	2	0	34	6	5	84	0	0	95	282					
7:45 AM	0	0	0	0	0	0	0	88	61	5	0	154	7	0	6	29	0	42	6	31	0	3	0	40	16	7	103	0	0	126	362					
8:00 AM	0	0	0	0	0	0	0	117	65	4	0	186	4	0	3	4	0	11	0	46	0	1	0	47	4	2	66	0	0	72	316					
8:15 AM	0	0	0	0	0	0	0	73	63	2	0	138	3	0	1	1	0	5	1	37	0	0	0	38	4	1	78	0	0	83	264					
Total Volume	0	0	0	0	0	0	0	349	265	11	0	625	18	0	11	35	0	64	8	145	0	6	0	159	30	15	331	0	0	376	1224					
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.8	42.4	1.8	0.0		28.1	0.0	17.2	54.7	0.0		5.0	91.2	0.0	3.8	0.0		8.0	4.0	88.0	0.0	0.0							
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.746	0.872	0.550	0.000	0.840	0.643	0.000	0.458	0.302	0.000	0.381	0.333	0.788	0.000	0.500	0.000	0.846	0.469	0.536	0.803	0.000	0.000	0.746	0.845					
Cars	0	0	0	0	0	0	0	325	259	11	0	595	18	0	11	33	0	62	8	143	0	6	0	157	29	15	294	0	0	338	1152					
Cars %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	93.1	97.7	100.0	0.0	95.2	100.0	0.0	100.0	94.3	0.0	96.9	100.0	98.6	0.0	100.0	0.0	98.7	96.7	100.0	88.8	0.0	0.0	89.9	94.1					
Heavy Vehicles	0	0	0	0	0	0	0	24	6	0	0	30	0	0	0	2	0	2	0	2	0	0	0	2	1	0	37	0	0	38	72					
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	2.3	0.0	0.0	4.8	0.0	0.0	0.0	5.7	0.0	3.1	0.0	1.4	0.0	0.0	0.0	1.3	3.3	0.0	11.2	0.0	0.0	10.1	5.9					
Cars Enter Leg	0	0	0	0	0	0	0	325	259	11	0	595	18	0	11	33	0	62	8	143	0	6	0	157	29	15	294	0	0	338	1152					
Heavy Enter Leg	0	0	0	0	0	0	0	24	6	0	0	30	0	0	0	2	0	2	0	2	0	0	0	2	1	0	37	0	0	38	72					
Total Entering Leg	0	0	0	0	0	0	0	349	265	11	0	625	18	0	11	35	0	64	8	145	0	6	0	159	30	15	331	0	0	376	1224					
Cars Exiting Leg																																				
Heavy Exiting Leg																																				
Total Exiting Leg																																				

PDI File #: **207450 A**
 Location: **N: Driveway S: Appleton Place**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:

PRECISION
 DATA
 INDUSTRIES, LLC
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars

	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total
	from North						from East						from South						from Southwest						from West						
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	59	61	0	0	120	2	0	3	2	0	7	0	21	0	1	0	22	2	1	75	0	0	78	227
7:15 AM	0	0	0	0	0	0	0	65	51	1	0	117	2	0	1	1	0	4	0	24	0	1	0	25	6	1	87	0	0	94	240
7:30 AM	0	0	0	0	0	0	0	63	76	0	0	139	4	0	1	1	0	6	1	30	0	2	0	33	6	5	72	0	0	83	261
7:45 AM	0	0	0	0	0	0	0	81	60	5	0	146	7	0	6	27	0	40	6	30	0	3	0	39	15	7	94	0	0	116	341
Total	0	0	0	0	0	0	0	268	248	6	0	522	15	0	11	31	0	57	7	105	0	7	0	119	29	14	328	0	0	371	1069
8:00 AM	0	0	0	0	0	0	0	111	64	4	0	179	4	0	3	4	0	11	0	46	0	1	0	47	4	2	61	0	0	67	304
8:15 AM	0	0	0	0	0	0	0	70	59	2	0	131	3	0	1	1	0	5	1	37	0	0	0	38	4	1	67	0	0	72	246
8:30 AM	0	0	0	0	0	0	0	66	49	3	0	118	2	0	0	4	0	6	1	29	0	5	0	35	5	0	80	0	0	85	244
8:45 AM	0	0	0	0	0	0	0	85	45	3	0	133	0	0	2	1	0	3	0	30	0	2	0	32	1	2	77	1	0	81	249
Total	0	0	0	0	0	0	0	332	217	12	0	561	9	0	6	10	0	25	2	142	0	8	0	152	14	5	285	1	0	305	1043
Grand Total	0	0	0	0	0	0	0	600	465	18	0	1083	24	0	17	41	0	82	9	247	0	15	0	271	43	19	613	1	0	676	2112
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	55.4	42.9	1.7	0.0		29.3	0.0	20.7	50.0	0.0		3.3	91.1	0.0	5.5	0.0		6.4	2.8	90.7	0.1	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.4	22.0	0.9	0.0	51.3	1.1	0.0	0.8	1.9	0.0	3.9	0.4	11.7	0.0	0.7	0.0	12.8	2.0	0.9	29.0	0.0	0.0	32.0	
Exiting Leg Total						1						884					46						549						632	2112	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						
	from North						from East						from South						from Southwest						from West						
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	
7:30 AM	0	0	0	0	0	0	0	63	76	0	0	139	4	0	1	1	0	6	1	30	0	2	0	33	6	5	72	0	0	83	261
7:45 AM	0	0	0	0	0	0	0	81	60	5	0	146	7	0	6	27	0	40	6	30	0	3	0	39	15	7	94	0	0	116	341
8:00 AM	0	0	0	0	0	0	0	111	64	4	0	179	4	0	3	4	0	11	0	46	0	1	0	47	4	2	61	0	0	67	304
8:15 AM	0	0	0	0	0	0	0	70	59	2	0	131	3	0	1	1	0	5	1	37	0	0	0	38	4	1	67	0	0	72	246
Total Volume	0	0	0	0	0	0	0	325	259	11	0	595	18	0	11	33	0	62	8	143	0	6	0	157	29	15	294	0	0	338	1152
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	54.6	43.5	1.8	0.0		29.0	0.0	17.7	53.2	0.0		5.1	91.1	0.0	3.8	0.0		8.6	4.4	87.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.732	0.852	0.550	0.000	0.831	0.643	0.000	0.458	0.306	0.000	0.388	0.333	0.777	0.000	0.500	0.000	0.835	0.483	0.536	0.782	0.000	0.000	0.728	0.845
Entering Leg	0	0	0	0	0	0	0	325	259	11	0	595	18	0	11	33	0	62	8	143	0	6	0	157	29	15	294	0	0	338	1152
Exiting Leg						0						455						34											342	1152	
Total						0						1050					96												680	2304	

PDI File #: **207450 A**
 Location: **N: Driveway S: Appleton Place**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:

PRECISION
 DATA
 INDUSTRIES, LLC
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total
	from North						from East						from South						from Southwest						from West						
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	13	0	0	0	13	0	0	0	1	0	1	0	1	0	0	0	1	0	0	8	0	0	8	23
7:15 AM	0	0	0	0	0	0	0	7	3	0	0	10	0	0	1	0	0	1	1	0	0	1	0	2	0	0	8	0	0	8	21
7:30 AM	0	0	0	0	0	0	0	8	0	0	0	8	0	0	0	0	0	0	0	1	0	0	0	1	0	0	12	0	0	12	21
7:45 AM	0	0	0	0	0	0	0	7	1	0	0	8	0	0	0	2	0	2	0	1	0	0	0	1	1	0	9	0	0	10	21
Total	0	0	0	0	0	0	0	35	4	0	0	39	0	0	1	3	0	4	1	3	0	1	0	5	1	0	37	0	0	38	86
8:00 AM	0	0	0	0	0	0	0	6	1	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	12
8:15 AM	0	0	0	0	0	0	0	3	4	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	11	18
8:30 AM	0	0	0	0	0	0	0	6	2	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	12
8:45 AM	0	0	0	0	0	0	0	7	2	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6	0	0	7	16
Total	0	0	0	0	0	0	0	22	9	0	0	31	0	0	0	0	0	0	0	0	0	0	0	0	0	1	26	0	0	27	58
Grand Total	0	0	0	0	0	0	0	57	13	0	0	70	0	0	1	3	0	4	1	3	0	1	0	5	1	1	63	0	0	65	144
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	81.4	18.6	0.0	0.0	0.0	0.0	0.0	25.0	75.0	0.0	0.0	20.0	60.0	0.0	20.0	0.0	0.0	1.5	1.5	96.9	0.0	0.0	0.0	0.0
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.6	9.0	0.0	0.0	48.6	0.0	0.0	0.7	2.1	0.0	2.8	0.7	2.1	0.0	0.7	0.0	3.5	0.7	0.7	43.8	0.0	0.0	45.1	0.0
Exiting Leg Total	0						66						2						17						59						144
Buses	0	0	0	0	0	0	0	24	0	0	0	24	0	0	0	3	0	3	0	0	0	0	0	0	1	0	20	0	0	21	48
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.1	0.0	0.0	0.0	34.3	0.0	0.0	0.0	100.0	0.0	75.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	31.7	0.0	0.0	32.3	33.3
Exiting Leg Total	0						20						0						4						24						48
Single-Unit Trucks	0	0	0	0	0	0	0	30	12	0	0	42	0	0	1	0	0	1	1	3	0	1	0	5	0	1	35	0	0	36	84
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.6	92.3	0.0	0.0	60.0	0.0	0.0	100.0	0.0	25.0	0.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0	55.6	0.0	0.0	55.4	58.3
Exiting Leg Total	0						38						2						12						32						84
Articulated Trucks	0	0	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	12
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.3	7.7	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.7	0.0	0.0	12.3	8.3
Exiting Leg Total	0						8						0						1						3						12

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total	
	from North						from East						from South						from Southwest						from West							
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total		
7:00 AM	0	0	0	0	0	0	0	13	0	0	0	13	0	0	0	1	0	1	0	1	0	0	0	1	0	0	0	8	0	0	8	23
7:15 AM	0	0	0	0	0	0	0	7	3	0	0	10	0	0	1	0	0	1	1	0	0	1	0	2	0	0	0	8	0	0	8	21
7:30 AM	0	0	0	0	0	0	0	8	0	0	0	8	0	0	0	0	0	0	0	1	0	0	0	1	0	0	12	0	0	12	21	
7:45 AM	0	0	0	0	0	0	0	7	1	0	0	8	0	0	0	2	0	2	0	1	0	0	0	1	1	0	9	0	0	10	21	
Total Volume	0	0	0	0	0	0	0	35	4	0	0	39	0	0	1	3	0	4	1	3	0	1	0	5	1	0	37	0	0	38	86	
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	89.7	10.3	0.0	0.0	0.0	0.0	0.0	25.0	75.0	0.0	0.0	20.0	60.0	0.0	20.0	0.0	0.0	2.6	0.0	97.4	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.673	0.333	0.000	0.000	0.750	0.000	0.000	0.250	0.375	0.000	0.500	0.250	0.750	0.000	0.250	0.000	0.625	0.250	0.000	0.771	0.000	0.000	0.792	0.935	
Buses	0	0	0	0	0	0	0	15	0	0	0	15	0	0	0	3	0	3	0	0	0	0	0	0	1	0	9	0	0	10	28	
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.9	0.0	0.0	0.0	38.5	0.0	0.0	0.0	100.0	0.0	75.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	24.3	0.0	0.0	26.3	32.6	
Single-Unit Trucks	0	0	0	0	0	0	0	19	3	0	0	22	0	0	1	0	0	1	1	3	0	1	0	5	0	0	22	0	0	22	50	
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.3	75.0	0.0	0.0	56.4	0.0	0.0	100.0	0.0	0.0	25.0	100.0	100.0	0.0	100.0	0.0	100.0	0.0	0.0	59.5	0.0	0.0	57.9	58.1	
Articulated Trucks	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	8	
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	25.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.2	0.0	0.0	15.8	9.3	
Buses	0	0	0	0	0	0	0	15	0	0	0	15	0	0	0	3	0	3	0	0	0	0	0	0	1	0	9	0	0	10	28	
Single-Unit Trucks	0	0	0	0	0	0	0	19	3	0	0	22	0	0	1	0	0	1	1	3	0	1	0	5	0	0	22	0	0	22	50	
Articulated Trucks	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	8	
Total Entering Leg	0	0	0	0	0	0	0	35	4	0	0	39	0	0	1	3	0	4	1	3	0	1	0	5	1	0	37	0	0	38	86	
Buses	0						9						0						4						15						28	
Single-Unit Trucks	0						25						1						3						21						50	
Articulated Trucks	0						6						0						1						1		8					
Total Exiting Leg	0						40						1						8						37						86	

PDI File #: **207450 A**
 Location: **N: Driveway S: Appleton Place**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:

PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Class:	Buses																															
	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total	
	from North						from East						from South						from Southwest						from West							
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total		
7:00 AM	0	0	0	0	0	0	0	5	0	0	0	5	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	4	0	0		4
7:15 AM	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	6
7:30 AM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
7:45 AM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	2	0	2	0	0	0	0	0	0	0	1	0	3	0	0	4	9
Total	0	0	0	0	0	0	0	15	0	0	0	15	0	0	0	3	0	3	0	0	0	0	0	0	1	0	9	0	0	10	28	
8:00 AM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	7	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	4	
8:30 AM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	4	
8:45 AM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	5	
Total	0	0	0	0	0	0	0	9	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	11	20
Grand Total	0	0	0	0	0	0	0	24	0	0	0	24	0	0	0	3	0	3	0	0	0	0	0	0	1	0	20	0	0	21	48	
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0		4.8	0.0	95.2	0.0	0.0			
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	6.3	0.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0	2.1	0.0	41.7	0.0	0.0	43.8		
Exiting Leg Total	0						20						0						4						24						48	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue							
	from North						from East						from South						from Southwest						from West							
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Total	
7:00 AM	0	0	0	0	0	0	0	5	0	0	0	5	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	4	0	0	4	10
7:15 AM	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	6	
7:30 AM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
7:45 AM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	2	0	2	0	0	0	0	0	0	1	0	3	0	0	4	9	
Total Volume	0	0	0	0	0	0	0	15	0	0	0	15	0	0	0	3	0	3	0	0	0	0	0	0	1	0	9	0	0	10	28	
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0		10.0	0.0	90.0	0.0	0.0			
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.375	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.563	0.000	0.000	0.625	0.700	
Entering Leg	0	0	0	0	0	0	0	15	0	0	0	15	0	0	0	3	0	3	0	0	0	0	0	0	1	0	9	0	0	10	28	
Exiting Leg	0						9						0						4						15						28	
Total	0						24						3						4						25						56	

PDI File #: **207450 A**
 Location: **N: Driveway S: Appleton Place**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:

PRECISION
 DATA
 INDUSTRIES, LLC
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Class:		Single-Unit Trucks																														
		Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						
		from North						from East						from South						from Southwest						from West						
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Total	
7:00 AM	0	0	0	0	0	0	0	0	8	0	0	0	8	0	0	0	0	0	0	0	1	0	0	0	1	0	0	3	0	0	3	12
7:15 AM	0	0	0	0	0	0	0	0	3	2	0	0	5	0	0	1	0	0	1	1	0	0	1	0	2	0	0	3	0	0	3	11
7:30 AM	0	0	0	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	1	0	0	0	1	0	0	11	0	0	11	17
7:45 AM	0	0	0	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	0	1	0	0	0	1	0	0	5	0	0	5	10
Total	0	0	0	0	0	0	0	0	19	3	0	0	22	0	0	1	0	0	1	1	3	0	1	0	5	0	0	22	0	0	22	50
8:00 AM	0	0	0	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	5
8:15 AM	0	0	0	0	0	0	0	0	2	4	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	12
8:30 AM	0	0	0	0	0	0	0	0	3	2	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	8
8:45 AM	0	0	0	0	0	0	0	0	3	2	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	4	9
Total	0	0	0	0	0	0	0	0	11	9	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	1	13	0	0	14	34
Grand Total	0	0	0	0	0	0	0	0	30	12	0	0	42	0	0	1	0	0	1	1	3	0	1	0	5	0	1	35	0	0	36	84
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	71.4	28.6	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	20.0	60.0	0.0	20.0	0.0	0.0	0.0	2.8	97.2	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.7	14.3	0.0	0.0	50.0	0.0	0.0	1.2	0.0	0.0	1.2	1.2	3.6	0.0	1.2	0.0	6.0	0.0	1.2	41.7	0.0	0.0	42.9	
Exiting Leg Total	0						38						2						12						32						84	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						
	from North						from East						from South						from Southwest						from West						
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	8	0	0	0	0	8	0	0	0	0	0	0	0	1	0	0	1	0	0	3	0	0	3	12
7:15 AM	0	0	0	0	0	0	0	3	2	0	0	5	0	0	1	0	0	1	1	0	0	1	0	2	0	0	3	0	0	3	11
7:30 AM	0	0	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	1	0	0	0	1	0	0	11	0	0	11	17
7:45 AM	0	0	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	0	1	0	0	0	1	0	0	5	0	0	5	10
Total Volume	0	0	0	0	0	0	0	19	3	0	0	22	0	0	1	0	0	1	1	3	0	1	0	5	0	0	22	0	0	22	50
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	86.4	13.6	0.0	0.0		0.0	0.0	100.0	0.0	0.0		20.0	60.0	0.0	20.0	0.0		0.0	0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.594	0.375	0.000	0.000	0.688	0.000	0.000	0.250	0.000	0.000	0.250	0.250	0.750	0.000	0.250	0.000	0.625	0.000	0.000	0.500	0.000	0.000	0.500	0.735
Entering Leg	0	0	0	0	0	0	0	19	3	0	0	22	0	0	1	0	0	1	1	3	0	1	0	5	0	0	22	0	0	22	50
Exiting Leg	0						25						1						3						21						50
Total	0						47						2						8						43						100

PDI File #: **207450 A**
 Location: **N: Driveway S: Appleton Place**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:

PRECISION
 DATA
 INDUSTRIES, LLC
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Class:		Articulated Trucks																															
		Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total	
		from North						from East						from South						from Southwest						from West							
		Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0		1
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	4
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
Total	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	6	8
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
Total	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	4
Grand Total	0	0	0	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	8	12
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	8.3	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7	0.0	0.0	66.7	0.0	0.0
Exiting Leg Total	0						8						0						1						3						12		

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue							
	from North						from East						from South						from Southwest						from West							
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	4
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
Total Volume	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	8
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.500	
Entering Leg	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	8
Exiting Leg	0						6						0						1						1						8	
Total	0						8						0						1						7						16	

PDI File #: **207450 A**
 Location: **N: Driveway S: Appleton Place**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:

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Bicycles (on Roadway and Crosswalks)

	Driveway								Massachusetts Avenue								Appleton Place								Appleton Street								Massachusetts Avenue								Total
	from North								from East								from South								from Southwest								from West								
	Right	Bear Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	4	
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	6	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	2	0	0	0	2	4
8:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	4	0	0	0	0	0	0	4	0	0	2	0	0	0	2	8
Grand Total	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	4	1	0	0	0	0	1	0	2	0	4	0	0	0	0	0	0	4	0	0	4	0	0	0	4	14
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.6	0.0	0.0	0.0	0.0	0.0	28.6	7.1	0.0	0.0	0.0	0.0	7.1	0.0	14.3	0.0	28.6	0.0	0.0	0.0	0.0	0.0	28.6	0.0	0.0	28.6	0.0	0.0	0.0	28.6		
Exiting Leg Total	0								9								1								0								4								14

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Driveway								Massachusetts Avenue								Appleton Place								Appleton Street								Massachusetts Avenue								Total	
	from North								from East								from South								from Southwest								from West									
	Right	Bear Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	2	0	0	0	2	4
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Total Volume	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	4	0	0	0	0	0	0	4	0	0	2	0	0	0	2	8
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	1.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.500	
Entering Leg	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	4	0	0	0	0	0	0	4	0	0	2	0	0	0	2	8	
Exiting Leg	0								7								0								0								1								8	
Total	0								8								1								4								3								16	

PDI File #: 207450 A
Location: N: Driveway S: Appleton Place
Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD
Count Date: Tuesday, February 4, 2020
Start Time: 7:00 AM
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Class:

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DATA
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Pedestrians

	Driveway								Massachusetts Avenue								Appleton Place								Appleton Street								Massachusetts Avenue								Total
	from North								from East								from South								from Southwest								from West								
	Right	Bear Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	10	1	11	0	0	0	0	0	12	0	12	0	0	0	0	0	14	0	14	0	0	0	0	0	5	0	5	0	0	0	0	0	0	1	1	43
7:15 AM	0	0	0	0	0	6	1	7	0	0	0	0	0	23	0	23	0	0	0	0	0	15	0	15	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	47
7:30 AM	0	0	0	0	0	57	0	57	0	0	0	0	0	56	0	56	0	0	0	0	0	47	2	49	0	0	0	0	0	2	7	9	0	0	0	0	0	0	8	8	179
7:45 AM	0	0	0	0	0	22	0	22	0	0	0	0	0	25	2	27	0	0	0	0	0	12	1	13	0	0	0	0	0	1	2	3	0	0	0	0	0	0	1	1	66
Total	0	0	0	0	0	95	2	97	0	0	0	0	0	116	2	118	0	0	0	0	0	88	3	91	0	0	0	0	0	8	10	18	0	0	0	0	0	0	11	11	335
8:00 AM	0	0	0	0	0	4	0	4	0	0	0	0	0	5	0	5	0	0	0	0	0	4	0	4	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	15
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
8:30 AM	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	8
8:45 AM	0	0	0	0	0	1	2	3	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2	2	9	
Total	0	0	0	0	0	5	4	9	0	0	0	0	0	5	3	8	0	0	0	0	0	4	3	7	0	0	0	0	0	5	1	6	0	0	0	0	0	2	2	4	34
Grand Total	0	0	0	0	0	100	6	106	0	0	0	0	0	121	5	126	0	0	0	0	0	92	6	98	0	0	0	0	0	13	11	24	0	0	0	0	0	2	13	15	369
Approach %	0	0	0	0	0	94.3	5.66		0	0	0	0	0	96	3.97		0	0	0	0	0	93.9	6.12		0	0	0	0	0	54.2	45.8		0	0	0	0	0	13.3	86.7		
Total %	0	0	0	0	0	27.1	1.63	28.7	0	0	0	0	0	32.8	1.36	34.1	0	0	0	0	0	24.9	1.63	26.6	0	0	0	0	0	3.52	2.98	6.5	0	0	0	0	0	0.54	3.52	4.07	
Exiting Leg Total	106								126								98								24								15								369

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Driveway								Massachusetts Avenue								Appleton Place								Appleton Street								Massachusetts Avenue								Total	
	from North								from East								from South								from Southwest								from West									
	Right	Bear Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
7:00 AM	0	0	0	0	0	10	1	11	0	0	0	0	0	12	0	12	0	0	0	0	0	14	0	14	0	0	0	0	0	5	0	5	0	0	0	0	0	0	0	1	1	43
7:15 AM	0	0	0	0	0	6	1	7	0	0	0	0	0	23	0	23	0	0	0	0	0	15	0	15	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	47
7:30 AM	0	0	0	0	0	57	0	57	0	0	0	0	0	56	0	56	0	0	0	0	0	47	2	49	0	0	0	0	0	2	7	9	0	0	0	0	0	0	0	8	8	179
7:45 AM	0	0	0	0	0	22	0	22	0	0	0	0	0	25	2	27	0	0	0	0	0	12	1	13	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	1	1	66
Total Volume	0	0	0	0	0	95	2	97	0	0	0	0	0	116	2	118	0	0	0	0	0	88	3	91	0	0	0	0	0	8	10	18	0	0	0	0	0	0	11	11	335	
% Approach Total	0.0	0.0	0.0	0.0	0.0	97.9	2.1		0.0	0.0	0.0	0.0	0.0	98.3	1.7		0.0	0.0	0.0	0.0	0.0	96.7	3.3		0.0	0.0	0.0	0.0	0.0	44.4	55.6		0.0	0.0	0.0	0.0	0.0	0.0	100.0			
PHF	0.000	0.000	0.000	0.000	0.000	0.417	0.500	0.425	0.000	0.000	0.000	0.000	0.000	0.518	0.250	0.527	0.000	0.000	0.000	0.000	0.000	0.468	0.375	0.464	0.000	0.000	0.000	0.000	0.000	0.400	0.357	0.500	0.000	0.000	0.000	0.000	0.000	0.344	0.344	0.468		
Entering Leg	0	0	0	0	0	95	2	97	0	0	0	0	0	116	2	118	0	0	0	0	0	88	3	91	0	0	0	0	0	8	10	18	0	0	0	0	0	0	11	11	335	
Exiting Leg	97								118								91								18								11								335	
Total	194								236								182								36								22								670	

PDI File #: **207450 AA**
 Location: **N: Driveway S: Appleton Place**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:

PRECISION
 DATA
 INDUSTRIES, LLC
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total
	from North						from East						from South						from Southwest						from West						
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	
4:00 PM	1	0	0	0	0	1	1	84	39	0	0	124	2	0	2	2	0	6	1	46	0	3	0	50	1	2	99	1	0	103	284
4:15 PM	1	0	0	0	0	1	0	71	30	0	0	101	0	0	1	1	0	2	0	51	0	4	0	55	2	5	101	0	0	108	267
4:30 PM	1	1	0	0	0	2	0	84	27	2	0	113	0	0	1	0	0	1	2	57	0	3	0	62	1	5	92	2	0	100	278
4:45 PM	0	0	0	0	0	0	1	85	47	1	0	134	2	0	2	2	0	6	1	49	1	3	0	54	3	2	108	0	0	113	307
Total	3	1	0	0	0	4	2	324	143	3	0	472	4	0	6	5	0	15	4	203	1	13	0	221	7	14	400	3	0	424	1136
5:00 PM	1	0	0	0	0	1	1	77	39	1	0	118	2	0	2	0	0	4	1	74	0	1	0	76	3	0	89	0	0	92	291
5:15 PM	0	1	0	0	0	1	0	66	20	0	0	86	5	1	0	1	0	7	2	86	0	2	0	90	1	3	109	1	0	114	298
5:30 PM	1	0	0	1	0	2	0	78	20	0	0	98	4	0	4	2	0	10	1	87	0	4	0	92	1	5	108	2	0	116	318
5:45 PM	1	0	0	0	0	1	1	88	31	0	0	120	3	0	2	0	0	5	1	70	0	3	0	74	4	1	105	0	0	110	310
Total	3	1	0	1	0	5	2	309	110	1	0	422	14	1	8	3	0	26	5	317	0	10	0	332	9	9	411	3	0	432	1217
Grand Total	6	2	0	1	0	9	4	633	253	4	0	894	18	1	14	8	0	41	9	520	1	23	0	553	16	23	811	6	0	856	2353
Approach %	66.7	22.2	0.0	11.1	0.0		0.4	70.8	28.3	0.4	0.0		43.9	2.4	34.1	19.5	0.0		1.6	94.0	0.2	4.2	0.0		1.9	2.7	94.7	0.7	0.0		
Total %	0.3	0.1	0.0	0.0	0.0	0.4	0.2	26.9	10.8	0.2	0.0	38.0	0.8	0.0	0.6	0.3	0.0	1.7	0.4	22.1	0.0	1.0	0.0	23.5	0.7	1.0	34.5	0.3	0.0	36.4	
Exiting Leg Total	12						1350						36						279						676						2353
Cars	6	2	0	1	0	9	4	616	251	4	0	875	18	1	14	8	0	41	9	512	1	23	0	545	16	23	791	6	0	836	2306
% Cars	100.0	100.0	0.0	100.0	0.0	100.0	100.0	97.3	99.2	100.0	0.0	97.9	100.0	100.0	100.0	0.0	100.0		100.0	98.5	100.0	100.0	0.0	98.6	100.0	100.0	97.5	100.0	0.0	97.7	98.0
Exiting Leg Total	12						1322						36						277						659						2306
Heavy Vehicles	0	0	0	0	0	0	0	17	2	0	0	19	0	0	0	0	0	0	0	8	0	0	0	8	0	0	20	0	0	20	47
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.8	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	1.4	0.0	0.0	2.5	0.0	0.0	2.3	2.0
Exiting Leg Total	0						28						0						2						17						47

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total
	from North						from East						from South						from Southwest						from West						
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	
5:00 PM	1	0	0	0	0	1	1	77	39	1	0	118	2	0	2	0	0	4	1	74	0	1	0	76	3	0	89	0	0	92	291
5:15 PM	0	1	0	0	0	1	0	66	20	0	0	86	5	1	0	1	0	7	2	86	0	2	0	90	1	3	109	1	0	114	298
5:30 PM	1	0	0	1	0	2	0	78	20	0	0	98	4	0	4	2	0	10	1	87	0	4	0	92	1	5	108	2	0	116	318
5:45 PM	1	0	0	0	0	1	1	88	31	0	0	120	3	0	2	0	0	5	1	70	0	3	0	74	4	1	105	0	0	110	310
Total Volume	3	1	0	1	0	5	2	309	110	1	0	422	14	1	8	3	0	26	5	317	0	10	0	332	9	9	411	3	0	432	1217
% Approach Total	60.0	20.0	0.0	20.0	0.0		0.5	73.2	26.1	0.2	0.0		53.8	3.8	30.8	11.5	0.0		1.5	95.5	0.0	3.0	0.0		2.1	2.1	95.1	0.7	0.0		
PHF	0.750	0.250	0.000	0.250	0.000	0.625	0.500	0.878	0.705	0.250	0.000	0.879	0.700	0.250	0.500	0.375	0.000	0.650	0.625	0.911	0.000	0.625	0.000	0.902	0.563	0.450	0.943	0.375	0.000	0.931	0.957
Cars	3	1	0	1	0	5	2	301	109	1	0	413	14	1	8	3	0	26	5	315	0	10	0	330	9	9	401	3	0	422	1196
Cars %	100.0	100.0	0.0	100.0	0.0	100.0	100.0	97.4	99.1	100.0	0.0	97.9	100.0	100.0	100.0	0.0	100.0		100.0	99.4	0.0	100.0	0.0	99.4	100.0	100.0	97.6	100.0	0.0	97.7	98.3
Heavy Vehicles	0	0	0	0	0	0	0	8	1	0	0	9	0	0	0	0	0	0	0	2	0	0	0	2	0	0	10	0	0	10	21
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.9	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.6	0.0	0.0	2.4	0.0	0.0	2.3	1.7
Cars Enter Leg	3	1	0	1	0	5	2	301	109	1	0	413	14	1	8	3	0	26	5	315	0	10	0	330	9	9	401	3	0	422	1196
Heavy Enter Leg	0	0	0	0	0	0	0	8	1	0	0	9	0	0	0	0	0	0	0	2	0	0	0	2	0	0	10	0	0	10	21
Total Entering Leg	3	1	0	1	0	5	2	309	110	1	0	422	14	1	8	3	0	26	5	317	0	10	0	332	9	9	411	3	0	432	1217
Cars Exiting Leg	6						731						15						122						322						1196
Heavy Exiting Leg	0						12						0						1						8						21
Total Exiting Leg	6						743						15						123						330						1217

PDI File #: **207450 AA**
 Location: **N: Driveway S: Appleton Place**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:

PRECISION
 DATA
 INDUSTRIES, LLC
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars

	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total
	from North						from East						from South						from Southwest						from West						
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	
4:00 PM	1	0	0	0	0	1	1	82	38	0	0	121	2	0	2	2	0	6	1	44	0	3	0	48	1	2	96	1	0	100	276
4:15 PM	1	0	0	0	0	1	0	69	30	0	0	99	0	0	1	1	0	2	0	50	0	4	0	54	2	5	98	0	0	105	261
4:30 PM	1	1	0	0	0	2	0	81	27	2	0	110	0	0	1	0	0	1	2	56	0	3	0	61	1	5	91	2	0	99	273
4:45 PM	0	0	0	0	0	0	1	83	47	1	0	132	2	0	2	2	0	6	1	47	1	3	0	52	3	2	105	0	0	110	300
Total	3	1	0	0	0	4	2	315	142	3	0	462	4	0	6	5	0	15	4	197	1	13	0	215	7	14	390	3	0	414	1110
5:00 PM	1	0	0	0	0	1	1	72	38	1	0	112	2	0	2	0	0	4	1	74	0	1	0	76	3	0	86	0	0	89	282
5:15 PM	0	1	0	0	0	1	0	66	20	0	0	86	5	1	0	1	0	7	2	86	0	2	0	90	1	3	106	1	0	111	295
5:30 PM	1	0	0	1	0	2	0	77	20	0	0	97	4	0	4	2	0	10	1	86	0	4	0	91	1	5	105	2	0	113	313
5:45 PM	1	0	0	0	0	1	1	86	31	0	0	118	3	0	2	0	0	5	1	69	0	3	0	73	4	1	104	0	0	109	306
Total	3	1	0	1	0	5	2	301	109	1	0	413	14	1	8	3	0	26	5	315	0	10	0	330	9	9	401	3	0	422	1196
Grand Total	6	2	0	1	0	9	4	616	251	4	0	875	18	1	14	8	0	41	9	512	1	23	0	545	16	23	791	6	0	836	2306
Approach %	66.7	22.2	0.0	11.1	0.0		0.5	70.4	28.7	0.5	0.0		43.9	2.4	34.1	19.5	0.0		1.7	93.9	0.2	4.2	0.0		1.9	2.8	94.6	0.7	0.0		
Total %	0.3	0.1	0.0	0.0	0.0	0.4	0.2	26.7	10.9	0.2	0.0	37.9	0.8	0.0	0.6	0.3	0.0	1.8	0.4	22.2	0.0	1.0	0.0	23.6	0.7	1.0	34.3	0.3	0.0	36.3	
Exiting Leg Total	12						1322						36						277						659						2306

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total	
	from North						from East						from South						from Southwest						from West							
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total		
5:00 PM	1	0	0	0	0	1	1	72	38	1	0	112	2	0	2	0	0	4	1	74	0	1	0	76	3	0	86	0	0	89	282	
5:15 PM	0	1	0	0	0	1	0	66	20	0	0	86	5	1	0	0	1	0	7	2	86	0	2	0	90	1	3	106	1	0	111	295
5:30 PM	1	0	0	1	0	2	0	77	20	0	0	97	4	0	4	2	0	10	1	86	0	4	0	91	1	5	105	2	0	113	313	
5:45 PM	1	0	0	0	0	1	1	86	31	0	0	118	3	0	2	0	0	5	1	69	0	3	0	73	4	1	104	0	0	109	306	
Total Volume	3	1	0	1	0	5	2	301	109	1	0	413	14	1	8	3	0	26	5	315	0	10	0	330	9	9	401	3	0	422	1196	
% Approach Total	60.0	20.0	0.0	20.0	0.0		0.5	72.9	26.4	0.2	0.0		53.8	3.8	30.8	11.5	0.0		1.5	95.5	0.0	3.0	0.0		2.1	2.1	95.0	0.7	0.0			
PHF	0.750	0.250	0.000	0.250	0.000	0.625	0.500	0.875	0.717	0.250	0.000	0.875	0.700	0.250	0.500	0.375	0.000	0.650	0.625	0.916	0.000	0.625	0.000	0.907	0.563	0.450	0.946	0.375	0.000	0.934	0.955	
Entering Leg	3	1	0	1	0	5	2	301	109	1	0	413	14	1	8	3	0	26	5	315	0	10	0	330	9	9	401	3	0	422	1196	
Exiting Leg						6						731						15						122						322	1196	
Total						11						1144						41						452						744	2392	

PDI File #: 207450 AA
Location: N: Driveway S: Appleton Place
Location: E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD
Count Date: Tuesday, February 4, 2020
Start Time: 4:00 PM
End Time: 6:00 PM
Class:

PRECISION
DATA
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total	
	from North						from East						from South						from Southwest						from West							
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total		
4:00 PM	0	0	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	3	0	0	3	8
4:15 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	3	0	0	3	6	
4:30 PM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	5	
4:45 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	2	0	0	3	0	0	3	7	
Total	0	0	0	0	0	0	0	9	1	0	0	10	0	0	0	0	0	0	0	6	0	0	0	6	0	0	10	0	0	10	26	
5:00 PM	0	0	0	0	0	0	0	5	1	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	9	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3	
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	3	0	0	3	5	
5:45 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	4	
Total	0	0	0	0	0	0	0	8	1	0	0	9	0	0	0	0	0	0	0	2	0	0	0	2	0	0	10	0	0	10	21	
Grand Total	0	0	0	0	0	0	0	17	2	0	0	19	0	0	0	0	0	0	0	8	0	0	0	8	0	0	20	0	0	20	47	
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	89.5	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.2	4.3	0.0	0.0	40.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.0	0.0	0.0	0.0	17.0	0.0	0.0	42.6	0.0	0.0	42.6	0.0	
Exiting Leg Total	0						28						0						2						17						47	
Buses	0	0	0	0	0	0	0	13	1	0	0	14	0	0	0	0	0	0	0	2	0	0	0	2	0	0	17	0	0	17	33	
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	76.5	50.0	0.0	0.0	73.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	25.0	0.0	0.0	85.0	0.0	0.0	85.0	70.2	
Exiting Leg Total	0						19						0						1						13						33	
Single-Unit Trucks	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	5	0	0	0	5	0	0	2	0	0	2	10	
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.6	0.0	0.0	0.0	15.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	0.0	0.0	0.0	62.5	0.0	0.0	10.0	0.0	0.0	10.0	21.3	
Exiting Leg Total	0						7						0						0						3						10	
Articulated Trucks	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	4	
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	50.0	0.0	0.0	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5	0.0	0.0	0.0	12.5	0.0	0.0	5.0	0.0	0.0	5.0	8.5	
Exiting Leg Total	0						2						0						1						1						4	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total
	from North						from East						from South						from Southwest						from West						
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	
4:15 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	3	0	0	3	6
4:30 PM	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	5
4:45 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0	2	0	0	3	0	0	3	7
5:00 PM	0	0	0	0	0	0	0	5	1	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	9
Total Volume	0	0	0	0	0	0	0	12	1	0	0	13	0	0	0	0	0	0	0	4	0	0	0	4	0	0	10	0	0	10	27
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92.3	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.600	0.250	0.000	0.000	0.542	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.500	0.000	0.000	0.833	0.000	0.000	0.833	0.750
Buses	0	0	0	0	0	0	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	18
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	83.3	0.0	0.0	0.0	76.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.0	0.0	0.0	80.0	66.7
Single-Unit Trucks	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	3	0	0	2	0	0	2	6
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	0.0	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.0	0.0	0.0	0.0	75.0	0.0	0.0	20.0	0.0	0.0	20.0	22.2
Articulated Trucks	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	100.0	0.0	0.0	15.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1
Buses	0	0	0	0	0	0	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	18
Single-Unit Trucks	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	3	0	0	2	0	0	2	6
Articulated Trucks	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3
Total Entering Leg	0	0	0	0	0	0	0	12	1	0	0	13	0	0	0	0	0	0	0	4	0	0	0	4	0	0	10	0	0	10	27
Buses	0						8						0						0						10						18
Single-Unit Trucks	0						5						0						0						1						6
Articulated Trucks	0						1						0						1						1						3
Total Exiting Leg	0						14						0						1						12			27			

PDI File #: **207450 AA**
 Location: **N: Driveway S: Appleton Place**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:

PRECISION
 DATA
 INDUSTRIES, LLC
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Buses

	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total	
	from North						from East						from South						from Southwest						from West							
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total		
4:00 PM	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	5
4:15 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	5	
4:30 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3	
4:45 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	4	
Total	0	0	0	0	0	0	0	7	1	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	17	
5:00 PM	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	6	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3	
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	2	0	0	2	4
5:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	1	3
Total	0	0	0	0	0	0	0	6	0	0	0	6	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	8	0	0	8	16
Grand Total	0	0	0	0	0	0	0	13	1	0	0	14	0	0	0	0	0	0	0	2	0	0	0	2	0	0	17	0	0	17	33	
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92.9	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.4	3.0	0.0	0.0	42.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.1	0.0	0.0	0.0	6.1	0.0	0.0	51.5	0.0	0.0	51.5		
Exiting Leg Total	0						19						0						1						13						33	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total
	from North						from East						from South						from Southwest						from West						
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	
4:15 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	5
4:30 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3
4:45 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	4
5:00 PM	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	6
Total Volume	0	0	0	0	0	0	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	18
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.667	0.000	0.000	0.667	0.750	
Entering Leg	0	0	0	0	0	0	0	10	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	18
Exiting Leg	0						8						0						0						10						18
Total	0						18						0						0						18						36

PDI File #: **207450 AA**
 Location: **N: Driveway S: Appleton Place**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:

PRECISION
 D A T A
 INDUSTRIES, LLC
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Single-Unit Trucks

	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total	
	from North						from East						from South						from Southwest						from West							
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total		
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	1	0	0	1	3
Total	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	5	0	0	0	0	5	0	0	1	0	0	1	8
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
Grand Total	0	0	0	0	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	5	0	0	0	0	5	0	0	2	0	0	2	10
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	0.0	0.0	0.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	50.0	0.0	0.0	20.0	0.0	0.0	20.0		
Exiting Leg Total	0						7						0						0						3						10	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total
	from North						from East						from South						from Southwest						from West						
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	1	0	0	1	3
Total Volume	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	5	0	0	0	0	5	0	0	1	0	0	1	8
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000		0.000	0.625	0.000	0.000	0.000	0.625	0.000	0.000	0.250	0.000	0.000	0.250	0.667
Entering Leg	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	5	0	0	0	5	0	0	1	0	0	1	8	
Exiting Leg	0						6						0						0						2						8
Total	0						8						0						5						3						16

PDI File #: **207450 AA**
 Location: **N: Driveway S: Appleton Place**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:

PRECISION
 DATA
 INDUSTRIES, LLC
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Articulated Trucks

	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total
	from North						from East						from South						from Southwest						from West						
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3
Grand Total	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	1	4
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	25.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	25.0	0.0	0.0	25.0	0.0	0.0	25.0	0.0
Exiting Leg Total	0						2						0						1						1						4

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Driveway						Massachusetts Avenue						Appleton Place						Appleton Street						Massachusetts Avenue						Total	
	from North						from East						from South						from Southwest						from West							
	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total		
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Total Volume	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	3	
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.375	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.375	
Entering Leg	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3	
Exiting Leg	0						1						0						1						1						3	
Total	0						3						0						2						1						6	

PDI File #: **207450 AA**
 Location: **N: Driveway S: Appleton Place**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:

PRECISION
 DATA
 INDUSTRIES, LLC
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Driveway								Massachusetts Avenue								Appleton Place								Appleton Street								Massachusetts Avenue								Total	
	from North								from East								from South								from Southwest								from West									
	Right	Bear Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	3	
5:00 PM	0	0	0	0	0	0	1	1	2	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	1	1	2	0	4	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
Grand Total	0	0	0	0	0	0	1	1	2	0	5	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	9	
Approach %	0.0	0.0	0.0	0.0	0.0	50.0	50.0			0.0	100.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	11.1	11.1	22.2		0.0	55.6	0.0	0.0	0.0	0.0	55.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	22.2		0.0	0.0	0.0	0.0	22.2		
Exiting Leg Total	2								2								0								0								5								9	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Driveway								Massachusetts Avenue								Appleton Place								Appleton Street								Massachusetts Avenue								Total
	from North								from East								from South								from Southwest								from West								
	Right	Bear Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	
5:00 PM	0	0	0	0	0	1	1	2	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	0	0	0	0	1	1	2	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	6	
% Approach Total	0.0	0.0	0.0	0.0	0.0	50.0	50.0		0.0	100.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.250	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.500	0.500		
Entering Leg	0	0	0	0	0	1	1	2	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	6		
Exiting Leg	2								2								0								0								2								6
Total	4								4								0								0								4								12

PDI File #: **207450 AA**
 Location: **N: Driveway S: Appleton Place**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue SW: Appleton Street**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:

PRECISION
DATA
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Pedestrians

	Driveway								Massachusetts Avenue								Appleton Place								Appleton Street								Massachusetts Avenue								Total	
	from North								from East								from South								from Southwest								from West									
	Right	Bear Right	Thru	Left	U-Turn	CW-SB	CW-WB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-WB	CW-EB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-NWB	CW-SEB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
4:00 PM	0	0	0	0	0	3	1	4	0	0	0	0	0	1	0	1	0	0	0	0	0	1	2	3	0	0	0	0	0	4	2	6	0	0	0	0	0	0	0	0	0	14
4:15 PM	0	0	0	0	0	3	2	5	0	0	0	0	0	4	1	5	0	0	0	0	0	2	1	3	0	0	0	0	0	3	1	4	0	0	0	0	0	0	0	0	0	17
4:30 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	5		
4:45 PM	0	0	0	0	0	6	2	8	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	12	
Total	0	0	0	0	0	12	8	20	0	0	0	0	0	6	1	7	0	0	0	0	0	6	3	9	0	0	0	0	0	8	3	11	0	0	0	0	0	0	0	1	1	48
5:00 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7		
5:15 PM	0	0	0	0	0	3	3	6	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	0	0	1	1	10	
5:30 PM	0	0	0	0	0	3	1	4	0	0	0	0	0	1	0	1	0	0	0	0	0	1	2	3	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	10
5:45 PM	0	0	0	0	0	0	3	3	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5		
Total	0	0	0	0	0	9	7	16	0	0	0	0	0	4	3	7	0	0	0	0	0	2	2	4	0	0	0	0	0	2	2	4	0	0	0	0	0	0	1	1	32	
Grand Total	0	0	0	0	0	21	15	36	0	0	0	0	0	10	4	14	0	0	0	0	0	8	5	13	0	0	0	0	0	10	5	15	0	0	0	0	0	0	2	2	80	
Approach %	0	0	0	0	0	58.3	41.7		0	0	0	0	0	71.4	28.6		0	0	0	0	0	61.5	38.5		0	0	0	0	0	66.7	33.3		0	0	0	0	0	0	100			
Total %	0	0	0	0	0	26.3	18.8	45	0	0	0	0	0	12.5	5	17.5	0	0	0	0	0	10	6.25	16.3	0	0	0	0	0	12.5	6.25	18.8	0	0	0	0	0	0	2.5	2.5		
Exiting Leg Total	36								14								13								15																2	80

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

[illegible]

PDI File #: 207450 BBCC
Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway
Location: E: Massachusetts Avenue W: Massachusetts Avenue
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD
Count Date: Tuesday, February 4, 2020
Start Time: 4:00 PM
End Time: 6:00 PM
Class:

PRECISION
DATA
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	
4:00 PM	26	1	5	0	0	32	1	3	0	0	0	4	1	22	95	2	0	120	1	0	0	0	0	1	0	122	1	23	0	146	303
4:15 PM	16	2	6	0	0	24	1	1	0	1	0	3	0	16	82	0	0	98	2	0	1	0	0	3	1	113	0	43	0	157	285
4:30 PM	18	0	15	0	0	33	2	5	0	0	0	7	2	13	96	0	0	111	0	0	0	0	0	0	1	115	1	34	0	151	302
4:45 PM	27	0	6	0	0	33	1	4	0	3	0	8	1	18	94	0	0	113	0	0	0	0	0	0	0	132	1	21	0	154	308
Total	87	3	32	0	0	122	5	13	0	4	0	22	4	69	367	2	0	442	3	0	1	0	0	4	2	482	3	121	0	608	1198
5:00 PM	18	0	11	0	0	29	3	4	0	2	0	9	1	24	96	0	0	121	0	0	1	0	0	1	0	116	3	50	0	169	329
5:15 PM	15	1	8	0	0	24	0	1	0	1	0	2	1	23	72	0	0	96	2	0	0	1	0	3	1	139	1	55	0	196	321
5:30 PM	13	0	8	0	0	21	0	4	0	3	0	7	0	17	82	0	0	99	2	0	1	0	0	3	1	148	1	49	1	200	330
5:45 PM	19	3	11	0	0	33	2	3	0	0	0	5	0	20	102	3	0	125	4	0	1	0	0	5	0	137	1	40	0	178	346
Total	65	4	38	0	0	107	5	12	0	6	0	23	2	84	352	3	0	441	8	0	3	1	0	12	2	540	6	194	1	743	1326
Grand Total	152	7	70	0	0	229	10	25	0	10	0	45	6	153	719	5	0	883	11	0	4	1	0	16	4	1022	9	315	1	1351	2524
Approach %	66.4	3.1	30.6	0.0	0.0		22.2	55.6	0.0	22.2	0.0		0.7	17.3	81.4	0.6	0.0		68.8	0.0	25.0	6.3	0.0		0.3	75.6	0.7	23.3	0.1		
Total %	6.0	0.3	2.8	0.0	0.0	9.1	0.4	1.0	0.0	0.4	0.0	1.8	0.2	6.1	28.5	0.2	0.0	35.0	0.4	0.0	0.2	0.0	0.0	0.6	0.2	40.5	0.4	12.5	0.0	53.5	
Exiting Leg Total	482						15						1113						16						898						2524
Cars	152	7	70	0	0	229	10	25	0	9	0	44	6	150	698	5	0	859	11	0	4	1	0	16	4	999	9	312	1	1325	2473
% Cars	100.0	100.0	100.0	0.0	0.0	100.0	100.0	100.0	0.0	90.0	0.0	97.8	100.0	98.0	97.1	100.0	0.0	97.3	100.0	0.0	100.0	100.0	0.0	100.0	100.0	97.7	100.0	99.0	100.0	98.1	98.0
Exiting Leg Total	476						15						1089						16						877						2473
Heavy Vehicles	0	0	0	0	0	0	0	0	0	1	0	1	0	3	21	0	0	24	0	0	0	0	0	0	0	23	0	3	0	26	51
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	2.2	0.0	2.0	2.9	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	1.0	0.0	1.9	2.0
Exiting Leg Total	6						0						24						0						21						51

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	
5:00 PM	18	0	11	0	0	29	3	4	0	2	0	9	1	24	96	0	0	121	0	0	1	0	0	1	0	116	3	50	0	169	329
5:15 PM	15	1	8	0	0	24	0	1	0	1	0	2	1	23	72	0	0	96	2	0	0	1	0	3	1	139	1	55	0	196	321
5:30 PM	13	0	8	0	0	21	0	4	0	3	0	7	0	17	82	0	0	99	2	0	1	0	0	3	1	148	1	49	1	200	330
5:45 PM	19	3	11	0	0	33	2	3	0	0	0	5	0	20	102	3	0	125	4	0	1	0	0	5	0	137	1	40	0	178	346
Total Volume	65	4	38	0	0	107	5	12	0	6	0	23	2	84	352	3	0	441	8	0	3	1	0	12	2	540	6	194	1	743	1326
% Approach Total	60.7	3.7	35.5	0.0	0.0		21.7	52.2	0.0	26.1	0.0		0.5	19.0	79.8	0.7	0.0		66.7	0.0	25.0	8.3	0.0		0.3	72.7	0.8	26.1	0.1		
PHF	0.855	0.333	0.864	0.000	0.000	0.811	0.417	0.750	0.000	0.500	0.000	0.639	0.500	0.875	0.863	0.250	0.000	0.882	0.500	0.000	0.750	0.250	0.000	0.600	0.500	0.912	0.500	0.882	0.250	0.929	0.958
Cars	65	4	38	0	0	107	5	12	0	5	0	22	2	82	340	3	0	427	8	0	3	1	0	12	2	530	6	193	1	732	1300
Cars %	100.0	100.0	100.0	0.0	0.0	100.0	100.0	100.0	0.0	83.3	0.0	95.7	100.0	97.6	96.6	100.0	0.0	96.8	100.0	0.0	100.0	100.0	0.0	100.0	100.0	98.1	100.0	99.5	100.0	98.5	98.0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	1	0	1	0	2	12	0	0	14	0	0	0	0	0	0	0	10	0	1	0	11	26
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7	0.0	4.3	0.0	2.4	3.4	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.5	0.0	1.5	2.0
Cars Enter Leg	65	4	38	0	0	107	5	12	0	5	0	22	2	82	340	3	0	427	8	0	3	1	0	12	2	530	6	193	1	732	1300
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	1	0	1	0	2	12	0	0	14	0	0	0	0	0	0	0	10	0	1	0	11	26
Total Entering Leg	65	4	38	0	0	107	5	12	0	6	0	23	2	84	352	3	0	441	8	0	3	1	0	12	2	540	6	194	1	743	1326
Cars Exiting Leg	283						8						581						9						419						1300
Heavy Exiting Leg	3						0						11						0						12						26
Total Exiting Leg	286						8						592						9						431						1326

PDI File #: **207450 BBCC**
 Location: **N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:

PRECISION
 DATA
 INDUSTRIES, LLC
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars

	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	
4:00 PM	26	1	5	0	0	32	1	3	0	0	0	4	1	21	93	2	0	117	1	0	0	0	0	1	0	118	1	23	0	142	296
4:15 PM	16	2	6	0	0	24	1	1	0	1	0	3	0	16	80	0	0	96	2	0	1	0	0	3	1	110	0	42	0	153	279
4:30 PM	18	0	15	0	0	33	2	5	0	0	0	7	2	13	93	0	0	108	0	0	0	0	0	0	1	113	1	34	0	149	297
4:45 PM	27	0	6	0	0	33	1	4	0	3	0	8	1	18	92	0	0	111	0	0	0	0	0	0	0	128	1	20	0	149	301
Total	87	3	32	0	0	122	5	13	0	4	0	22	4	68	358	2	0	432	3	0	1	0	0	4	2	469	3	119	0	593	1173
5:00 PM	18	0	11	0	0	29	3	4	0	2	0	9	1	22	90	0	0	113	0	0	1	0	0	1	0	113	3	50	0	166	318
5:15 PM	15	1	8	0	0	24	0	1	0	1	0	2	1	23	71	0	0	95	2	0	0	1	0	3	1	136	1	55	0	193	317
5:30 PM	13	0	8	0	0	21	0	4	0	2	0	6	0	17	81	0	0	98	2	0	1	0	0	3	1	146	1	48	1	197	325
5:45 PM	19	3	11	0	0	33	2	3	0	0	0	5	0	20	98	3	0	121	4	0	1	0	0	5	0	135	1	40	0	176	340
Total	65	4	38	0	0	107	5	12	0	5	0	22	2	82	340	3	0	427	8	0	3	1	0	12	2	530	6	193	1	732	1300
Grand Total	152	7	70	0	0	229	10	25	0	9	0	44	6	150	698	5	0	859	11	0	4	1	0	16	4	999	9	312	1	1325	2473
Approach %	66.4	3.1	30.6	0.0	0.0		22.7	56.8	0.0	20.5	0.0		0.7	17.5	81.3	0.6	0.0		68.8	0.0	25.0	6.3	0.0		0.3	75.4	0.7	23.5	0.1		
Total %	6.1	0.3	2.8	0.0	0.0	9.3	0.4	1.0	0.0	0.4	0.0	1.8	0.2	6.1	28.2	0.2	0.0	34.7	0.4	0.0	0.2	0.0	0.0	0.6	0.2	40.4	0.4	12.6	0.0	53.6	
Exiting Leg Total	476						15						1089						16						877						2473

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	
5:00 PM	18	0	11	0	0	29	3	4	0	2	0	9	1	22	90	0	0	113	0	0	1	0	0	1	0	113	3	50	0	166	318
5:15 PM	15	1	8	0	0	24	0	1	0	1	0	2	1	23	71	0	0	95	2	0	0	1	0	3	1	136	1	55	0	193	317
5:30 PM	13	0	8	0	0	21	0	4	0	2	0	6	0	17	81	0	0	98	2	0	1	0	0	3	1	146	1	48	1	197	325
5:45 PM	19	3	11	0	0	33	2	3	0	0	0	5	0	20	98	3	0	121	4	0	1	0	0	5	0	135	1	40	0	176	340
Total Volume	65	4	38	0	0	107	5	12	0	5	0	22	2	82	340	3	0	427	8	0	3	1	0	12	2	530	6	193	1	732	1300
% Approach Total	60.7	3.7	35.5	0.0	0.0		22.7	54.5	0.0	22.7	0.0		0.5	19.2	79.6	0.7	0.0		66.7	0.0	25.0	8.3	0.0		0.3	72.4	0.8	26.4	0.1		
PHF	0.855	0.333	0.864	0.000	0.000	0.811	0.417	0.750	0.000	0.625	0.000	0.611	0.500	0.891	0.867	0.250	0.000	0.882	0.500	0.000	0.750	0.250	0.000	0.600	0.500	0.908	0.500	0.877	0.250	0.929	0.956
Entering Leg	65	4	38	0	0	107	5	12	0	5	0	22	2	82	340	3	0	427	8	0	3	1	0	12	2	530	6	193	1	732	1300
Exiting Leg						283						8						581						9						419	1300
Total						390						30						1008						21						1151	2600

PDI File #: 207450 BBCC
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway
 Location: E: Massachusetts Avenue W: Massachusetts Avenue
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM
 Class:

PRECISION
 DATA
 INDUSTRIES, LLC
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total		
	from North						from Northeast						from East						from South						from West								
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total			
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	4	0	0	0	4	7	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	3	0	1	0	4	6		
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	2	0	0	0	2	5		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	4	0	1	0	5	7		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	9	0	0	10	0	0	0	0	0	0	0	0	13	0	2	0	15	25	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6	0	0	8	0	0	0	0	0	0	0	0	3	0	0	0	3	11	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	3	4	
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	1	0	3	5	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	2	0	0	0	2	6	
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	2	12	0	0	14	0	0	0	0	0	0	0	0	0	10	0	1	0	11	26
Grand Total	0	0	0	0	0	0	0	0	0	1	0	1	0	3	21	0	0	24	0	0	0	0	0	0	0	0	0	23	0	3	0	26	51
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	12.5	87.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	88.5	0.0	11.5	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0	5.9	41.2	0.0	0.0	47.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.1	0.0	5.9	0.0	51.0	0.0	
Exiting Leg Total	6						0						24						0						21						51		
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	0	0	18	0	0	0	18	34	
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	76.2	0.0	0.0	66.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	78.3	0.0	0.0	0.0	69.2	66.7	
Exiting Leg Total	0						0						18						0						16						34		
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	1	0	1	0	3	4	0	0	7	0	0	0	0	0	0	0	0	4	0	3	0	7	15	
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0	100.0	19.0	0.0	0.0	29.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.4	0.0	100.0	0.0	26.9	29.4	
Exiting Leg Total	6						0						5						0						4						15		
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	2	
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	0.0	0.0	0.0	3.8	3.9	
Exiting Leg Total	0						0						1						0						1						2		

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total	
	from North						from Northeast						from East						from South						from West							
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total		
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	3	0	1	0	4	6
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	2	0	0	0	2	5	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	4	0	1	0	5	7	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	6	0	0	8	0	0	0	0	0	0	0	3	0	0	0	3	11	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	2	13	0	0	15	0	0	0	0	0	0	0	0	12	0	2	0	14	29
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	13.3	86.7	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	85.7	0.0	14.3	0.0			
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.542	0.000	0.000	0.469	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.500	0.000	0.700	0.659	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	8	0	0	0	8	18
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	76.9	0.0	0.0	66.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7	0.0	0.0	0.0	57.1	62.1
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	0	0	0	3	0	2	0	5	9
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	15.4	0.0	0.0	26.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	100.0	0.0	35.7	31.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	2
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.3	0.0	0.0	0.0	7.1	6.9
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	8	0	0	0	8	18
Single-Unit Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	0	0	0	3	0	2	0	5	9
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	2
Total Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	2	13	0	0	15	0	0	0	0	0	0	0	0	12	0	2	0	14	29
Buses	0						0						8						0						10						18	
Single-Unit Trucks	4						0						3						0						2						9	
Articulated Trucks	0						0						1						0						1				2			
Total Exiting Leg	4						0						12						0						13						29	

PDI File #: **207450 BBCC**
 Location: **N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:

PRECISION
 DATA
 INDUSTRIES, LLC
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Buses

	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total	
	from North						from Northeast						from East						from South						from West							
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	3	0	0	0	3	5
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	3	0	0	0	3	5
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	1	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	2	4
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	9	0	0	0	9	17
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	2	0	0	0	2	6
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	3	4
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	2	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	2	4
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	9	0	0	0	9	17
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	0	0	18	0	0	0	18	34
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.1	0.0	0.0	47.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.9	0.0	0.0	0.0	52.9	
Exiting Leg Total	0						0						18						0						16						34	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue							
	from North						from Northeast						from East						from South						from West							
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total		
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	3	0	0	0	3	5
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	1	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2	0	0	0	2	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	2	0	0	0	2	6
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	8	0	0	0	8	18
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0			
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.667	0.000	0.000	0.000	0.667	0.750	
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	0	0	8	0	0	0	8	18
Exiting Leg	0						0						8						0						10						18	
Total	0						0						18						0						18						36	

PDI File #: **207450 BBCC**
 Location: **N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:

**PRECISION
DATA
INDUSTRIES, LLC**
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Single-Unit Trucks

	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total	
	from North						from Northeast						from East						from South						from West							
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	3	0	2	0	5	7
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	1	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	2	3	0	0	5	0	0	0	0	0	0	0	0	1	0	1	0	2	8
Grand Total	0	0	0	0	0	0	0	0	0	1	0	1	0	3	4	0	0	7	0	0	0	0	0	0	0	0	4	0	3	0	7	15
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	42.9	57.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.1	0.0	42.9	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.7	0.0	6.7	0.0	0.0	20.0	26.7	0.0	0.0	46.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.7	0.0	20.0	0.0	46.7	
Exiting Leg Total	6						0						5						0						4						15	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue							
	from North						from Northeast						from East						from South						from West							
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total		Total
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	1	4
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	0	0	0	3	0	2	0	5	9
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	50.0	50.0	0.0	0.0	4	0.0	0.0	0.0	0.0	0.0		0.0	60.0	0.0	40.0	0.0			
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.000	0.000	0.333	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.500	0.000	0.417	0.563	
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	4	0	0	0	0	0	0	0	0	3	0	2	0	5	9
Exiting Leg						4												3												2	9	
Total						4						0					7						0							7	18	

PDI File #: **207450 BBCC**
 Location: **N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:

PRECISION
 DATA
 INDUSTRIES, LLC
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Articulated Trucks

	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	50.0	0.0
Exiting Leg Total	0						0						1						0						1						2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total	
	from North						from Northeast						from East						from South						from West							
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total		
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1		
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2	
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0			
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.500	
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2	
Exiting Leg	0						0						0						0						0						1	2
Total	0						0						2						0						2						4	

PDI File #: 207450 BBCC
Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway
Location: E: Massachusetts Avenue W: Massachusetts Avenue
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD
Count Date: Tuesday, February 4, 2020
Start Time: 4:00 PM
End Time: 6:00 PM
Class:

PRECISION
DATA
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Forest Street								Mirak Mill Park West Driveway								Massachusetts Avenue								Burton Street								Massachusetts Avenue								Total
	from North								from Northeast								from East								from South								from West								
	Right	Thru	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Bear Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-NB	CW-SB	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	4
5:00 PM	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2	6
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2	6
Grand Total	1	1	0	0	0	0	0	2	0	0	0	1	0	0	0	0	1	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	1	2	0	0	0	0	1	4	10
Approach %	50.0	50.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	100.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		25.0	50.0	0.0	0.0	0.0	0.0	25.0		
Total %	10.0	10.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	10.0	0.0	0.0	30.0	0.0	0.0	0.0	0.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		10.0	20.0	0.0	0.0	0.0	0.0	10.0	40.0
Exiting Leg Total	0								0								3								2								5								10

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Forest Street								Mirak Mill Park West Driveway								Massachusetts Avenue								Burton Street								Massachusetts Avenue								Total
	from North								from Northeast								from East								from South								from West								
	Right	Thru	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Bear Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-NB	CW-SB	Total	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
5:00 PM	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2	6
Total Volume	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	1	2	0	0	0	0	1	4	9
% Approach Total	50.0	50.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0	0.0	0.0	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0		25.0	50.0	0.0	0.0	0.0	0.0	25.0		
PHF	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.000	0.000	0.000	0.000	0.250	0.500	0.375
Entering Leg	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	1	2	0	0	0	0	1	4	9
Exiting Leg	0								0								2								2								5								9
Total	2								0								5								2								9								18

PDI File #: **207450 BBCC**
 Location: **N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:

**PRECISION
D A T A
INDUSTRIES, LLC**
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Pedestrians

	Forest Street								Mirak Mill Park West Driveway								Massachusetts Avenue								Burton Street								Massachusetts Avenue								Total	
	from North								from Northeast								from East								from South								from West									
	Right	Thru	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Bear Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-NB	CW-SB	Total		
4:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	0	0	2	2	10
4:15 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4	5	0	0	0	0	0	3	1	4	12	
4:30 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5		
4:45 PM	0	0	0	0	0	5	2	7	0	0	0	0	0	6	2	8	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	5	0	0	0	0	0	1	0	1	21	
Total	0	0	0	0	0	9	4	13	0	0	0	0	0	9	5	14	0	0	0	0	0	0	0	0	0	0	0	0	0	5	8	13	0	0	0	0	0	5	3	8	48	
5:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	7		
5:15 PM	0	0	0	0	0	3	3	6	0	0	0	0	0	3	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	0	0	0	1	1	16	
5:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4	0	0	0	0	0	1	1	2	10	
5:45 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	5		
Total	0	0	0	0	0	6	4	10	0	0	0	0	0	8	6	14	0	0	0	0	0	0	0	0	0	0	0	0	0	5	5	10	0	0	0	0	0	1	3	4	38	
Grand Total	0	0	0	0	0	15	8	23	0	0	0	0	0	17	11	28	0	0	0	0	0	0	0	0	0	0	0	0	0	10	13	23	0	0	0	0	0	6	6	12	86	
Approach %	0	0	0	0	0	65.2	34.8		0	0	0	0	0	60.7	39.3		0	0	0	0	0	0	0	0	0	0	0	0	0	43.5	56.5		0	0	0	0	0	50	50			
Total %	0	0	0	0	0	17.4	9.3	26.7	0	0	0	0	0	19.8	12.8	32.6	0	0	0	0	0	0	0	0	0	0	0	0	0	11.6	15.1	26.7	0	0	0	0	0	6.98	6.98	14		
Exiting Leg Total	23								28								0								23								12								86	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Forest Street								Mirak Mill Park West Driveway								Massachusetts Avenue								Burton Street								Massachusetts Avenue								Total
	from North								from Northeast								from East								from South								from West								
	Right	Thru	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Bear Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-NB	CW-SB	Total	
4:45 PM	0	0	0	0	0	5	2	7	0	0	0	0	0	6	2	8	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	5	0	0	0	0	0	1	0	1	21
5:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	7	
5:15 PM	0	0	0	0	0	3	3	6	0	0	0	0	0	3	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	0	0	0	1	1	16
5:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4	0	0	0	0	0	1	1	2	10
Total Volume	0	0	0	0	0	11	5	16	0	0	0	0	0	13	6	19	0	0	0	0	0	0	0	0	0	0	0	0	0	7	7	14	0	0	0	0	0	2	3	5	54
% Approach Total	0.0	0.0	0.0	0.0	0.0	68.8	31.3		0.0	0.0	0.0	0.0	0.0	68.4	31.6		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0	40.0	60.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.550	0.417	0.571	0.000	0.000	0.000	0.000	0.000	0.542	0.750	0.594	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.583	0.583	0.700	0.000	0.000	0.000	0.000	0.000	0.500	0.750	0.625	0.643	
Entering Leg	0	0	0	0	0	11	5	16	0	0	0	0	0	13	6	19	0	0	0	0	0	0	0	0	0	0	0	0	7	7	14	0	0	0	0	0	2	3	5	54	
Exiting Leg	16								19								0								14								5								54
Total	32								38								0								28								10								108

PDI File #: **207450 BC**
 Location: **N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:

PRECISION
 D A T A
 INDUSTRIES, LLC
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	
7:00 AM	46	4	20	0	0	70	0	1	0	0	0	1	0	8	90	0	0	98	3	0	1	0	0	4	0	88	2	13	0	103	276
7:15 AM	50	3	13	1	0	67	0	0	0	0	0	0	1	6	75	0	0	82	3	0	0	0	0	3	0	106	3	10	0	119	271
7:30 AM	53	11	13	0	0	77	0	0	0	0	0	0	3	29	102	1	1	136	8	0	2	0	0	10	0	97	2	22	0	121	344
7:45 AM	41	9	20	0	0	70	0	0	0	0	0	0	0	25	116	5	0	146	9	0	7	0	0	16	0	111	5	25	0	141	373
Total	190	27	66	1	0	284	0	1	0	0	0	1	4	68	383	6	1	462	23	0	10	0	0	33	0	402	12	70	0	484	1264
8:00 AM	57	1	21	0	0	79	1	0	0	1	0	2	2	27	124	2	0	155	0	0	0	0	0	0	1	82	4	28	0	115	351
8:15 AM	43	1	11	0	0	55	0	0	0	0	0	0	1	13	90	0	0	104	1	1	0	0	0	2	0	93	9	13	0	115	276
8:30 AM	31	0	10	1	0	42	0	0	0	0	0	0	0	14	93	0	0	107	4	0	2	1	0	7	0	103	4	13	0	120	276
8:45 AM	28	1	10	1	0	40	0	0	0	2	0	2	1	14	115	0	0	130	2	0	0	2	0	4	0	98	4	13	0	115	291
Total	159	3	52	2	0	216	1	0	0	3	0	4	4	68	422	2	0	496	7	1	2	3	0	13	1	376	21	67	0	465	1194
Grand Total	349	30	118	3	0	500	1	1	0	3	0	5	8	136	805	8	1	958	30	1	12	3	0	46	1	778	33	137	0	949	2458
Approach %	69.8	6.0	23.6	0.6	0.0		20.0	20.0	0.0	60.0	0.0		0.8	14.2	84.0	0.8	0.1		65.2	2.2	26.1	6.5	0.0		0.1	82.0	3.5	14.4	0.0		
Total %	14.2	1.2	4.8	0.1	0.0	20.3	0.0	0.0	0.0	0.1	0.0	0.2	0.3	5.5	32.8	0.3	0.0	39.0	1.2	0.0	0.5	0.1	0.0	1.9	0.0	31.7	1.3	5.6	0.0	38.6	
Exiting Leg Total	286						45						930						39						1158						2458
Cars	340	30	113	3	0	486	1	1	0	3	0	5	8	132	749	8	1	898	30	1	12	2	0	45	1	713	33	133	0	880	2314
% Cars	97.4	100.0	95.8	100.0	0.0	97.2	100.0	100.0	0.0	100.0	0.0	100.0	100.0	97.1	93.0	100.0	93.7	100.0	100.0	100.0	66.7	0.0	97.8	100.0	91.6	100.0	97.1	0.0	92.7	94.1	
Exiting Leg Total	278						45						860						39						1092						2314
Heavy Vehicles	9	0	5	0	0	14	0	0	0	0	0	0	0	4	56	0	0	60	0	0	0	1	0	1	0	65	0	4	0	69	144
% Heavy Vehicles	2.6	0.0	4.2	0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	7.0	0.0	0.0	6.3	0.0	0.0	0.0	33.3	0.0	2.2	0.0	8.4	0.0	2.9	0.0	7.3	5.9
Exiting Leg Total	8						0						70						0						66						144

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	
7:30 AM	53	11	13	0	0	77	0	0	0	0	0	0	3	29	102	1	1	136	8	0	2	0	0	10	0	97	2	22	0	121	344
7:45 AM	41	9	20	0	0	70	0	0	0	0	0	0	0	25	116	5	0	146	9	0	7	0	0	16	0	111	5	25	0	141	373
8:00 AM	57	1	21	0	0	79	1	0	0	1	0	2	2	27	124	2	0	155	0	0	0	0	0	0	1	82	4	28	0	115	351
8:15 AM	43	1	11	0	0	55	0	0	0	0	0	0	1	13	90	0	0	104	1	1	0	0	0	2	0	93	9	13	0	115	276
Total Volume	194	22	65	0	0	281	1	0	0	1	0	2	6	94	432	8	1	541	18	1	9	0	0	28	1	383	20	88	0	492	1344
% Approach Total	69.0	7.8	23.1	0.0	0.0		50.0	0.0	0.0	50.0	0.0		1.1	17.4	79.9	1.5	0.2		64.3	3.6	32.1	0.0	0.0		0.2	77.8	4.1	17.9	0.0		
PHF	0.851	0.500	0.774	0.000	0.000	0.889	0.250	0.000	0.000	0.250	0.000	0.250	0.500	0.810	0.871	0.400	0.250	0.873	0.500	0.250	0.321	0.000	0.000	0.438	0.250	0.863	0.556	0.786	0.000	0.872	0.901
Cars	191	22	63	0	0	276	1	0	0	1	0	2	6	93	407	8	1	515	18	1	9	0	0	28	1	347	20	85	0	453	1274
Cars %	98.5	100.0	96.9	0.0	0.0	98.2	100.0	0.0	0.0	100.0	0.0	100.0	100.0	98.9	94.2	100.0	95.2	100.0	100.0	100.0	0.0	0.0	100.0	100.0	90.6	100.0	96.6	0.0	92.1	94.8	
Heavy Vehicles	3	0	2	0	0	5	0	0	0	0	0	0	0	1	25	0	0	26	0	0	0	0	0	0	0	36	0	3	0	39	70
Heavy Vehicles %	1.5	0.0	3.1	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	5.8	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.4	0.0	3.4	0.0	7.9	5.2
Cars Enter Leg	191	22	63	0	0	276	1	0	0	1	0	2	6	93	407	8	1	515	18	1	9	0	0	28	1	347	20	85	0	453	1274
Heavy Enter Leg	3	0	2	0	0	5	0	0	0	0	0	0	0	1	25	0	0	26	0	0	0	0	0	0	0	36	0	3	0	39	70
Total Entering Leg	194	22	65	0	0	281	1	0	0	1	0	2	6	94	432	8	1	541	18	1	9	0	0	28	1	383	20	88	0	492	1344
Cars Exiting Leg	188						27						430						31						598						1274
Heavy Exiting Leg	4						0						38						0						28						70
Total Exiting Leg	192						27						468						31						626						1344

PDI File #: **207450 BC**
 Location: **N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:

**PRECISION
D A T A
INDUSTRIES, LLC**
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars

	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	
7:00 AM	44	4	18	0	0	66	0	1	0	0	0	1	0	8	79	0	0	87	3	0	1	0	0	4	0	79	2	13	0	94	252
7:15 AM	48	3	13	1	0	65	0	0	0	0	0	0	1	5	69	0	0	75	3	0	0	0	0	3	0	97	3	10	0	110	253
7:30 AM	52	11	13	0	0	76	0	0	0	0	0	0	3	28	94	1	1	127	8	0	2	0	0	10	0	88	2	19	0	109	322
7:45 AM	41	9	20	0	0	70	0	0	0	0	0	0	0	25	110	5	0	140	9	0	7	0	0	16	0	100	5	25	0	130	356
Total	185	27	64	1	0	277	0	1	0	0	0	1	4	66	352	6	1	429	23	0	10	0	0	33	0	364	12	67	0	443	1183
8:00 AM	57	1	19	0	0	77	1	0	0	1	0	2	2	27	118	2	0	149	0	0	0	0	0	0	1	77	4	28	0	110	338
8:15 AM	41	1	11	0	0	53	0	0	0	0	0	0	1	13	85	0	0	99	1	1	0	0	0	2	0	82	9	13	0	104	258
8:30 AM	30	0	10	1	0	41	0	0	0	0	0	0	0	13	86	0	0	99	4	0	2	1	0	7	0	98	4	12	0	114	261
8:45 AM	27	1	9	1	0	38	0	0	0	2	0	2	1	13	108	0	0	122	2	0	0	1	0	3	0	92	4	13	0	109	274
Total	155	3	49	2	0	209	1	0	0	3	0	4	4	66	397	2	0	469	7	1	2	2	0	12	1	349	21	66	0	437	1131
Grand Total	340	30	113	3	0	486	1	1	0	3	0	5	8	132	749	8	1	898	30	1	12	2	0	45	1	713	33	133	0	880	2314
Approach %	70.0	6.2	23.3	0.6	0.0		20.0	20.0	0.0	60.0	0.0		0.9	14.7	83.4	0.9	0.1		66.7	2.2	26.7	4.4	0.0		0.1	81.0	3.8	15.1	0.0		
Total %	14.7	1.3	4.9	0.1	0.0	21.0	0.0	0.0	0.0	0.1	0.0	0.2	0.3	5.7	32.4	0.3	0.0	38.8	1.3	0.0	0.5	0.1	0.0	1.9	0.0	30.8	1.4	5.7	0.0	38.0	
Exiting Leg Total						278						45					860						39							1092	2314

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	
7:30 AM	52	11	13	0	0	76	0	0	0	0	0	0	3	28	94	1	1	127	8	0	2	0	0	10	0	88	2	19	0	109	322
7:45 AM	41	9	20	0	0	70	0	0	0	0	0	0	0	25	110	5	0	140	9	0	7	0	0	16	0	100	5	25	0	130	356
8:00 AM	57	1	19	0	0	77	1	0	0	1	0	2	2	27	118	2	0	149	0	0	0	0	0	0	1	77	4	28	0	110	338
8:15 AM	41	1	11	0	0	53	0	0	0	0	0	0	1	13	85	0	0	99	1	1	0	0	0	2	0	82	9	13	0	104	258
Total Volume	191	22	63	0	0	276	1	0	0	1	0	2	6	93	407	8	1	515	18	1	9	0	0	28	1	347	20	85	0	453	1274
% Approach Total	69.2	8.0	22.8	0.0	0.0		50.0	0.0	0.0	50.0	0.0		1.2	18.1	79.0	1.6	0.2		64.3	3.6	32.1	0.0	0.0		0.2	76.6	4.4	18.8	0.0		
PHF	0.838	0.500	0.788	0.000	0.000	0.896	0.250	0.000	0.000	0.250	0.000	0.250	0.500	0.830	0.862	0.400	0.250	0.864	0.500	0.250	0.321	0.000	0.000	0.438	0.250	0.868	0.556	0.759	0.000	0.871	0.895
Entering Leg	191	22	63	0	0	276	1	0	0	1	0	2	6	93	407	8	1	515	18	1	9	0	0	28	1	347	20	85	0	453	1274
Exiting Leg						188						27						430						31						598	1274
Total						464						29						945						59						1051	2548

PDI File #: 207450 BC
 Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway
 Location: E: Massachusetts Avenue W: Massachusetts Avenue
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 7:00 AM
 End Time: 9:00 AM
 Class:

PRECISION
 DATA
 INDUSTRIES, LLC
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total	
	from North						from Northeast						from East						from South						from West							
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total		
7:00 AM	2	0	2	0	0	4	0	0	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	0	0	9	0	0	0	9	24
7:15 AM	2	0	0	0	0	2	0	0	0	0	0	0	0	1	6	0	0	7	0	0	0	0	0	0	0	0	9	0	0	0	9	18
7:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	1	8	0	0	9	0	0	0	0	0	0	0	0	9	0	3	0	12	22
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	11	0	0	0	11	17
Total	5	0	2	0	0	7	0	0	0	0	0	0	0	2	31	0	0	33	0	0	0	0	0	0	0	0	38	0	3	0	41	81
8:00 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	5	0	0	0	5	13
8:15 AM	2	0	0	0	0	2	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	11	0	0	0	11	18
8:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	1	7	0	0	8	0	0	0	0	0	0	0	0	5	0	1	0	6	15
8:45 AM	1	0	1	0	0	2	0	0	0	0	0	0	0	1	7	0	0	8	0	0	0	1	0	1	0	0	6	0	0	0	6	17
Total	4	0	3	0	0	7	0	0	0	0	0	0	0	2	25	0	0	27	0	0	0	1	0	1	0	0	27	0	1	0	28	63
Grand Total	9	0	5	0	0	14	0	0	0	0	0	0	0	4	56	0	0	60	0	0	0	1	0	1	0	0	65	0	4	0	69	144
Approach %	64.3	0.0	35.7	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	6.7	93.3	0.0	0.0		0.0	0.0	0.0	100.0	0.0		0.0	94.2	0.0	5.8	0.0			
Total %	6.3	0.0	3.5	0.0	0.0	9.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	38.9	0.0	0.0	41.7	0.0	0.0	0.0	0.7	0.0	0.7	0.0	45.1	0.0	2.8	0.0	47.9		
Exiting Leg Total	8						0						70						0						66						144	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	0	0	24	0	0	0	0	0	0	0	0	21	0	0	0	21	45
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.9	0.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.3	0.0	0.0	0.0	30.4	31.3
Exiting Leg Total	0						0						21						0						24						45	
Single-Unit Trucks	9	0	5	0	0	14	0	0	0	0	0	0	0	3	29	0	0	32	0	0	0	1	0	1	0	0	38	0	3	0	41	88
% Single-Unit	100.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.0	51.8	0.0	0.0	53.3	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	58.5	0.0	75.0	0.0	59.4	61.1
Exiting Leg Total	6						0						43						0						39						88	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	0	0	6	0	1	0	7	11
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	5.4	0.0	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.2	0.0	25.0	0.0	10.1	7.6
Exiting Leg Total	2						0						6						0						3						11	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total	
	from North						from Northeast						from East						from South						from West							
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total		
7:00 AM	2	0	2	0	0	4	0	0	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	0	9	0	0	0	0	9	24
7:15 AM	2	0	0	0	0	2	0	0	0	0	0	0	0	1	6	0	0	7	0	0	0	0	0	0	0	9	0	0	0	0	9	18
7:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	1	8	0	0	9	0	0	0	0	0	0	0	9	0	3	0	12	22	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	11	0	0	0	11	17	
Total Volume	5	0	2	0	0	7	0	0	0	0	0	0	0	2	31	0	0	33	0	0	0	0	0	0	0	38	0	3	0	41	81	
% Approach Total	71.4	0.0	28.6	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	6.1	93.9	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	92.7	0.0	7.3	0.0			
PHF	0.625	0.000	0.250	0.000	0.000	0.438	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.705	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.864	0.000	0.250	0.000	0.854	0.844	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	0	9	0	0	0	0	9	24
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.4	0.0	0.0	45.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.7	0.0	0.0	0.0	22.0	29.6	
Single-Unit Trucks	5	0	2	0	0	7	0	0	0	0	0	0	0	2	15	0	0	17	0	0	0	0	0	0	0	24	0	2	0	26	50	
Single-Unit %	100.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	48.4	0.0	0.0	51.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	63.2	0.0	66.7	0.0	63.4	61.7	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	5	0	1	0	6	7	
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.2	0.0	33.3	0.0	14.6	8.6	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	0	9	0	0	0	0	9	24
Single-Unit Trucks	5	0	2	0	0	7	0	0	0	0	0	0	0	2	15	0	0	17	0	0	0	0	0	0	0	24	0	2	0	26	50	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	5	0	1	0	6	7	
Total Entering Leg	5	0	2	0	0	7	0	0	0	0	0	0	0	2	31	0	0	33	0	0	0	0	0	0	0	38	0	3	0	41	81	
Buses	0						0						9						0						15						24	
Single-Unit Trucks	4						0						26						0						20						50	
Articulated Trucks	1						0						5						0						1						7	
Total Exiting Leg	5						0						40						0						36						81	

PDI File #: **207450 BC**
 Location: **N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:

PRECISION
 DATA
 INDUSTRIES, LLC
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Buses

	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total	
	from North						from Northeast						from East						from South						from West							
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	4	0	0	0	4	9
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	2	0	0	0	0	6	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	3	0	0	0	0	6	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	0	9	0	0	0	0	9	24
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	4	0	0	0	0	4	7
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0	2	5
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0	2	5
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	0	12	0	0	0	0	12	21
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	0	0	24	0	0	0	0	0	0	0	21	0	0	0	0	21	45
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.3	0.0	0.0	53.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.7	0.0	0.0	0.0	0.0	46.7	
Exiting Leg Total	0						0						21						0						24						45	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total						
	from North						from Northeast						from East						from South						from West												
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total							
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	4	0	0	4	9						
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	2	0	0	0	2	6						
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3						
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	3	0	0	0	0	6						
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	0	0	9	0	0	0	9	24					
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0								
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.563	0.000	0.000	0.000	0.563	0.667						
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	0	0	9	0	0	0	9	24					
Exiting Leg	0						0						0						9						0						15						24
Total	0						0						24						0						24						24						48

PDI File #: **207450 BC**
 Location: **N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:

PRECISION
 DATA
 INDUSTRIES, LLC
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Single-Unit Trucks

	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total	
	from North						from Northeast						from East						from South						from West							
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total		
7:00 AM	2	0	2	0	0	4	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	4	0	0	0	4	14
7:15 AM	2	0	0	0	0	2	0	0	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	0	4	0	0	0	0	4	9
7:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	1	5	0	0	6	0	0	0	0	0	0	0	0	9	0	2	0	11	18
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	7	0	0	0	7	9
Total	5	0	2	0	0	7	0	0	0	0	0	0	0	2	15	0	0	17	0	0	0	0	0	0	0	0	24	0	2	0	26	50
8:00 AM	0	0	2	0	0	2	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	1	6
8:15 AM	2	0	0	0	0	2	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	6	0	0	0	6	12
8:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	1	4	0	0	5	0	0	0	0	0	0	0	0	3	0	1	0	4	10
8:45 AM	1	0	1	0	0	2	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	1	0	1	0	4	0	0	0	0	4	10
Total	4	0	3	0	0	7	0	0	0	0	0	0	0	1	14	0	0	15	0	0	0	1	0	1	0	14	0	1	0	15	38	
Grand Total	9	0	5	0	0	14	0	0	0	0	0	0	0	3	29	0	0	32	0	0	0	1	0	1	0	38	0	3	0	41	88	
Approach %	64.3	0.0	35.7	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	9.4	90.6	0.0	0.0		0.0	0.0	0.0	100.0	0.0		0.0	92.7	0.0	7.3	0.0			
Total %	10.2	0.0	5.7	0.0	0.0	15.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	33.0	0.0	0.0	36.4	0.0	0.0	0.0	1.1	0.0	1.1	0.0	43.2	0.0	3.4	0.0	46.6		
Exiting Leg Total	6						0						43						0						39						88	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total	
	from North						from Northeast						from East						from South						from West							
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total		
7:00 AM	2	0	2	0	0	4	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	4	0	0	4	14	
7:15 AM	2	0	0	0	0	2	0	0	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	4	0	0	4	9	
7:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	1	5	0	0	6	0	0	0	0	0	0	0	0	9	0	2	0	11	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	7	0	0	7	9	
Total Volume	5	0	2	0	0	7	0	0	0	0	0	0	0	2	15	0	0	17	0	0	0	0	0	0	0	0	24	0	2	0	26	50
% Approach Total	71.4	0.0	28.6	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	11.8	88.2	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	92.3	0.0	7.7	0.0			
PHF	0.625	0.000	0.250	0.000	0.000	0.438	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.625	0.000	0.000	0.708	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.667	0.000	0.250	0.000	0.591	0.694
Entering Leg	5	0	2	0	0	7	0	0	0	0	0	0	0	2	15	0	0	17	0	0	0	0	0	0	0	0	24	0	2	0	26	50
Exiting Leg						4						0						26							0						20	50
Total						11						0						43							0						46	100

PDI File #: 207450 BC
Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway
Location: E: Massachusetts Avenue W: Massachusetts Avenue
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD
Count Date: Tuesday, February 4, 2020
Start Time: 7:00 AM
End Time: 9:00 AM
Class:

PRECISION
D A T A
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Articulated Trucks

	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3		
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1		
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	1		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	5	0	1	0	6	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	1		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	0	1	0	0	0	1	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	0	0	6	0	1	0	7	
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	25.0	75.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	85.7	0.0	14.3	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	27.3	0.0	0.0	36.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.5	0.0	9.1	0.0	63.6	
Exiting Leg Total	2						0						6						0						3						11

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Forest Street						Mirak Mill Park West Driveway						Massachusetts Avenue						Burton Street						Massachusetts Avenue						Total
	from North						from Northeast						from East						from South						from West						
	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	Right	Thru	Bear Left	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	3
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	5	0	1	0	6	7
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	83.3	0.0	16.7	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.250	0.000	0.500	0.583
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	5	0	1	0	6	7
Exiting Leg	1						0						5						0						1						7
Total	1						0						6						0						7						14

PDI File #: 207450 BC
Location: N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway
Location: E: Massachusetts Avenue W: Massachusetts Avenue
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD
Count Date: Tuesday, February 4, 2020
Start Time: 7:00 AM
End Time: 9:00 AM
Class:

PRECISION
DATA
INDUSTRIES, LLC
46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

Bicycles (on Roadway and Crosswalks)

	Forest Street								Mirak Mill Park West Driveway								Massachusetts Avenue								Burton Street								Massachusetts Avenue								Total	
	from North								from Northeast								from East								from South								from West									
	Right	Thru	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Bear Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-NB	CW-SB	Total		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	4
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	4	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	0	1	0	0	0	0	4	5	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	4	0	3	0	0	0	0	7	8	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	5	0	3	0	0	0	0	8	12	
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	62.5	0.0	37.5	0.0	0.0	0.0	0.0			
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.7	0.0	25.0	0.0	0.0	0.0	66.7			
Exiting Leg Total	3								0								5								0								4								12	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Forest Street							Mirak Mill Park West Driveway							Massachusetts Avenue							Burton Street							Massachusetts Avenue							Total					
	from North							from Northeast							from East							from South							from West												
	Right	Thru	Left	Hard Left	U-Turn	CW-EB	CW-WB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Bear Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Bear Left		Left	U-Turn	CW-NB	CW-SB	Total
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	1	0	0	0	4	5
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	4	0	3	0	0	0	7	8
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	57.1	0.0	42.9	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.333	0.000	0.750	0.000	0.000	0.000	0.438	0.400
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	4	0	3	0	0	0	7	8
Exiting Leg																									4															1	8
Total								3												0					5														8	16	

PDI File #: **207450 BC**
 Location: **N: Forest Street S: Burton Street NE: Mirak Mill Park West Driveway**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:

**PRECISION
D A T A
INDUSTRIES, LLC**
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Pedestrians

	Forest Street								Mirak Mill Park West Driveway								Massachusetts Avenue								Burton Street								Massachusetts Avenue								Total	
	from North								from Northeast								from East								from South								from West									
	Right	Thru	Left	Hard Left	U-Turn	CW-SB	CW-WB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Bear Right	Thru	Left	U-Turn	CW-WB	CW-SB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-NB	CW-SB	Total		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	1	1	6	
7:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	6		
7:30 AM	0	0	0	0	0	0	0	4	4	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	0	28	28	38	
7:45 AM	0	0	0	0	0	0	0	4	4	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	16	16	23	
Total	0	0	0	0	0	1	8	9	0	0	0	0	0	6	2	8	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	8	0	0	0	0	0	1	47	48	73	
8:00 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3		
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
8:30 AM	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	1	0	1	7
8:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
Total	0	0	0	0	0	1	2	3	0	0	0	0	0	5	3	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	1	1	2	15
Grand Total	0	0	0	0	0	2	10	12	0	0	0	0	0	11	5	16	0	0	0	0	0	0	0	0	0	0	0	0	0	4	6	10	0	0	0	0	0	2	48	50	88	
Approach %	0	0	0	0	0	16.7	83.3		0	0	0	0	0	68.8	31.3		0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	60		0	0	0	0	0	4	96		
Total %	0	0	0	0	0	2.27	11.4	13.6	0	0	0	0	0	12.5	5.68	18.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4.55	6.82	11.4	0	0	0	0	0	2.27	54.5	56.8	
Exiting Leg Total	12								16								0								10								50								88	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Forest Street								Mirak Mill Park West Driveway								Massachusetts Avenue								Burton Street								Massachusetts Avenue								Total
	from North								from Northeast								from East								from South								from West								
	Right	Thru	Left	Hard Left	U-Turn	CW-SB	CW-WB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-SEB	CW-NWB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Bear Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Bear Left	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	1	1	6
7:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	6	3	6		
7:30 AM	0	0	0	0	0	0	4	4	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	28	28	38	
7:45 AM	0	0	0	0	0	0	4	4	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	16	16	23	
Total Volume	0	0	0	0	0	1	8	9	0	0	0	0	0	6	2	8	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	8	0	0	0	0	1	47	48	73	
% Approach Total	0.0	0.0	0.0	0.0	0.0	11.1	88.9		0.0	0.0	0.0	0.0	0.0	75.0	25.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.5	62.5		0.0	0.0	0.0	0.0	0.0	2.1	97.9		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.563	0.000	0.000	0.000	0.000	0.000	0.750	0.250	1.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.313	0.500	0.000	0.000	0.000	0.000	0.000	0.250	0.420	0.429	0.480	
Entering Leg	0	0	0	0	0	1	8	9	0	0	0	0	0	6	2	8	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	8	0	0	0	0	0	1	47	48	73
Exiting Leg								9								8																							48	73	
Total								18								16																							96	146	

PDI File #: **207450 D**
 Location: **S: Pine Court**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:

PRECISION
 D A T A
 INDUSTRIES, LLC
 46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdillc.com

Cars and Heavy Vehicles (Combined)

	Massachusetts Avenue				Pine Court				Massachusetts Avenue				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:00 AM	94	0	0	94	0	1	0	1	0	113	1	114	209
7:15 AM	79	0	0	79	0	2	0	2	0	115	0	115	196
7:30 AM	138	0	0	138	3	0	0	3	1	123	0	124	265
7:45 AM	143	0	0	143	0	1	0	1	0	139	0	139	283
Total	454	0	0	454	3	4	0	7	1	490	1	492	953
8:00 AM	152	0	0	152	4	0	0	4	0	105	0	105	261
8:15 AM	104	0	0	104	0	0	0	0	1	103	0	104	208
8:30 AM	107	0	0	107	0	1	0	1	0	120	0	120	228
8:45 AM	130	0	0	130	0	0	0	0	0	112	0	112	242
Total	493	0	0	493	4	1	0	5	1	440	0	441	939
Grand Total	947	0	0	947	7	5	0	12	2	930	1	933	1892
Approach %	100.0	0.0	0.0		58.3	41.7	0.0		0.2	99.7	0.1		
Total %	50.1	0.0	0.0	50.1	0.4	0.3	0.0	0.6	0.1	49.2	0.1	49.3	
Exiting Leg Total	937				2				953				1892
Cars	886	0	0	886	7	5	0	12	2	855	1	858	1756
% Cars	93.6	0.0	0.0	93.6	100.0	100.0	0.0	100.0	100.0	91.9	100.0	92.0	92.8
Exiting Leg Total	862				2				892				1756
Heavy Vehicles	61	0	0	61	0	0	0	0	0	75	0	75	136
% Heavy Vehicles	6.4	0.0	0.0	6.4	0.0	0.0	0.0	0.0	0.0	8.1	0.0	8.0	7.2
Exiting Leg Total	75				0				61				136

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Massachusetts Avenue				Pine Court				Massachusetts Avenue				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:30 AM	138	0	0	138	3	0	0	3	1	123	0	124	265
7:45 AM	143	0	0	143	0	1	0	1	0	139	0	139	283
8:00 AM	152	0	0	152	4	0	0	4	0	105	0	105	261
8:15 AM	104	0	0	104	0	0	0	0	1	103	0	104	208
Total Volume	537	0	0	537	7	1	0	8	2	470	0	472	1017
% Approach Total	100.0	0.0	0.0		87.5	12.5	0.0		0.4	99.6	0.0		
PHF	0.883	0.000	0.000	0.883	0.438	0.250	0.000	0.500	0.500	0.845	0.000	0.849	0.898
Cars	510	0	0	510	7	1	0	8	2	429	0	431	949
Cars %	95.0	0.0	0.0	95.0	100.0	100.0	0.0	100.0	100.0	91.3	0.0	91.3	93.3
Heavy Vehicles	27	0	0	27	0	0	0	0	0	41	0	41	68
Heavy Vehicles %	5.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	8.7	0.0	8.7	6.7
Cars Enter Leg	510	0	0	510	7	1	0	8	2	429	0	431	949
Heavy Enter Leg	27	0	0	27	0	0	0	0	0	41	0	41	68
Total Entering Leg	537	0	0	537	7	1	0	8	2	470	0	472	1017
Cars Exiting Leg				436				2				511	949
Heavy Exiting Leg				41				0				27	68
Total Exiting Leg				477				2				538	1017

PDI File #: **207450 D**
 Location: **S: Pine Court**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars

	Massachusetts Avenue				Pine Court				Massachusetts Avenue				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:00 AM	83	0	0	83	0	1	0	1	0	100	1	101	185
7:15 AM	72	0	0	72	0	2	0	2	0	107	0	107	181
7:30 AM	129	0	0	129	3	0	0	3	1	112	0	113	245
7:45 AM	137	0	0	137	0	1	0	1	0	127	0	127	265
Total	421	0	0	421	3	4	0	7	1	446	1	448	876
8:00 AM	145	0	0	145	4	0	0	4	0	98	0	98	247
8:15 AM	99	0	0	99	0	0	0	0	1	92	0	93	192
8:30 AM	98	0	0	98	0	1	0	1	0	114	0	114	213
8:45 AM	123	0	0	123	0	0	0	0	0	105	0	105	228
Total	465	0	0	465	4	1	0	5	1	409	0	410	880
Grand Total	886	0	0	886	7	5	0	12	2	855	1	858	1756
Approach %	100.0	0.0	0.0		58.3	41.7	0.0		0.2	99.7	0.1		
Total %	50.5	0.0	0.0	50.5	0.4	0.3	0.0	0.7	0.1	48.7	0.1	48.9	
Exiting Leg Total	862				2				892				1756

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Massachusetts Avenue				Pine Court				Massachusetts Avenue				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:30 AM	129	0	0	129	3	0	0	3	1	112	0	113	245
7:45 AM	137	0	0	137	0	1	0	1	0	127	0	127	265
8:00 AM	145	0	0	145	4	0	0	4	0	98	0	98	247
8:15 AM	99	0	0	99	0	0	0	0	1	92	0	93	192
Total Volume	510	0	0	510	7	1	0	8	2	429	0	431	949
% Approach Total	100.0	0.0	0.0		87.5	12.5	0.0		0.5	99.5	0.0		
PHF	0.879	0.000	0.000	0.879	0.438	0.250	0.000	0.500	0.500	0.844	0.000	0.848	0.895
Entering Leg	510	0	0	510	7	1	0	8	2	429	0	431	949
Exiting Leg				436				2				511	949
Total				946				10				942	1898

PDI File #: **207450 D**
 Location: **S: Pine Court**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**



Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Massachusetts Avenue				Pine Court				Massachusetts Avenue				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:00 AM	11	0	0	11	0	0	0	0	0	13	0	13	24
7:15 AM	7	0	0	7	0	0	0	0	0	8	0	8	15
7:30 AM	9	0	0	9	0	0	0	0	0	11	0	11	20
7:45 AM	6	0	0	6	0	0	0	0	0	12	0	12	18
Total	33	0	0	33	0	0	0	0	0	44	0	44	77
8:00 AM	7	0	0	7	0	0	0	0	0	7	0	7	14
8:15 AM	5	0	0	5	0	0	0	0	0	11	0	11	16
8:30 AM	9	0	0	9	0	0	0	0	0	6	0	6	15
8:45 AM	7	0	0	7	0	0	0	0	0	7	0	7	14
Total	28	0	0	28	0	0	0	0	0	31	0	31	59
Grand Total	61	0	0	61	0	0	0	0	0	75	0	75	136
Approach %	100.0	0.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
Total %	44.9	0.0	0.0	44.9	0.0	0.0	0.0	0.0	0.0	55.1	0.0	55.1	
Exiting Leg Total	75				0				61				136
Buses	25	0	0	25	0	0	0	0	0	22	0	22	47
% Buses	41.0	0.0	0.0	41.0	0.0	0.0	0.0	0.0	0.0	29.3	0.0	29.3	34.6
Exiting Leg Total	22				0				25				47
Single-Unit Trucks	33	0	0	33	0	0	0	0	0	47	0	47	80
% Single-Unit	54.1	0.0	0.0	54.1	0.0	0.0	0.0	0.0	0.0	62.7	0.0	62.7	58.8
Exiting Leg Total	47				0				33				80
Articulated Trucks	3	0	0	3	0	0	0	0	0	6	0	6	9
% Articulated	4.9	0.0	0.0	4.9	0.0	0.0	0.0	0.0	0.0	8.0	0.0	8.0	6.6
Exiting Leg Total	6				0				3				9

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Massachusetts Avenue				Pine Court				Massachusetts Avenue				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:00 AM	11	0	0	11	0	0	0	0	0	13	0	13	24
7:15 AM	7	0	0	7	0	0	0	0	0	8	0	8	15
7:30 AM	9	0	0	9	0	0	0	0	0	11	0	11	20
7:45 AM	6	0	0	6	0	0	0	0	0	12	0	12	18
Total Volume	33	0	0	33	0	0	0	0	0	44	0	44	77
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.750	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.846	0.000	0.846	0.802
Buses	16	0	0	16	0	0	0	0	0	10	0	10	26
Buses %	48.5	0.0	0.0	48.5	0.0	0.0	0.0	0.0	0.0	22.7	0.0	22.7	33.8
Single-Unit Trucks	17	0	0	17	0	0	0	0	0	29	0	29	46
Single-Unit %	51.5	0.0	0.0	51.5	0.0	0.0	0.0	0.0	0.0	65.9	0.0	65.9	59.7
Articulated Trucks	0	0	0	0	0	0	0	0	0	5	0	5	5
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.4	0.0	11.4	6.5
Buses	16	0	0	16	0	0	0	0	0	10	0	10	26
Single-Unit Trucks	17	0	0	17	0	0	0	0	0	29	0	29	46
Articulated Trucks	0	0	0	0	0	0	0	0	0	5	0	5	5
Total Entering Leg	33	0	0	33	0	0	0	0	0	44	0	44	77
Buses				10				0				16	26
Single-Unit Trucks				29				0				17	46
Articulated Trucks				5				0				0	5
Total Exiting Leg				44				0				33	77

PDI File #: **207450 D**
 Location: **S: Pine Court**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Buses

	Massachusetts Avenue				Pine Court				Massachusetts Avenue				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:00 AM	5	0	0	5	0	0	0	0	0	4	0	4	9
7:15 AM	4	0	0	4	0	0	0	0	0	2	0	2	6
7:30 AM	4	0	0	4	0	0	0	0	0	0	0	0	4
7:45 AM	3	0	0	3	0	0	0	0	0	4	0	4	7
Total	16	0	0	16	0	0	0	0	0	10	0	10	26
8:00 AM	3	0	0	3	0	0	0	0	0	4	0	4	7
8:15 AM	0	0	0	0	0	0	0	0	0	4	0	4	4
8:30 AM	3	0	0	3	0	0	0	0	0	2	0	2	5
8:45 AM	3	0	0	3	0	0	0	0	0	2	0	2	5
Total	9	0	0	9	0	0	0	0	0	12	0	12	21
Grand Total	25	0	0	25	0	0	0	0	0	22	0	22	47
Approach %	100.0	0.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
Total %	53.2	0.0	0.0	53.2	0.0	0.0	0.0	0.0	0.0	46.8	0.0	46.8	
Exiting Leg Total	22				0				25				47

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Massachusetts Avenue				Pine Court				Massachusetts Avenue				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:00 AM	5	0	0	5	0	0	0	0	0	4	0	4	9
7:15 AM	4	0	0	4	0	0	0	0	0	2	0	2	6
7:30 AM	4	0	0	4	0	0	0	0	0	0	0	0	4
7:45 AM	3	0	0	3	0	0	0	0	0	4	0	4	7
Total Volume	16	0	0	16	0	0	0	0	0	10	0	10	26
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.800	0.000	0.000	0.800	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.625	0.722
Entering Leg	16	0	0	16	0	0	0	0	0	10	0	10	26
Exiting Leg				10				0				16	26
Total				26				0				26	52

PDI File #: **207450 D**
 Location: **S: Pine Court**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Single-Unit Trucks

	Massachusetts Avenue				Pine Court				Massachusetts Avenue				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:00 AM	6	0	0	6	0	0	0	0	0	7	0	7	13
7:15 AM	3	0	0	3	0	0	0	0	0	4	0	4	7
7:30 AM	5	0	0	5	0	0	0	0	0	10	0	10	15
7:45 AM	3	0	0	3	0	0	0	0	0	8	0	8	11
Total	17	0	0	17	0	0	0	0	0	29	0	29	46
8:00 AM	4	0	0	4	0	0	0	0	0	3	0	3	7
8:15 AM	4	0	0	4	0	0	0	0	0	6	0	6	10
8:30 AM	6	0	0	6	0	0	0	0	0	4	0	4	10
8:45 AM	2	0	0	2	0	0	0	0	0	5	0	5	7
Total	16	0	0	16	0	0	0	0	0	18	0	18	34
Grand Total	33	0	0	33	0	0	0	0	0	47	0	47	80
Approach %	100.0	0.0	0.0		0.0	0.0	0.0			100.0	0.0		
Total %	41.3	0.0	0.0	41.3	0.0	0.0	0.0	0.0	0.0	58.8	0.0	58.8	
Exiting Leg Total	47				0				33				80

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Massachusetts Avenue				Pine Court				Massachusetts Avenue				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:00 AM	6	0	0	6	0	0	0	0	0	7	0	7	13
7:15 AM	3	0	0	3	0	0	0	0	0	4	0	4	7
7:30 AM	5	0	0	5	0	0	0	0	0	10	0	10	15
7:45 AM	3	0	0	3	0	0	0	0	0	8	0	8	11
Total Volume	17	0	0	17	0	0	0	0	0	29	0	29	46
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.708	0.000	0.000	0.708	0.000	0.000	0.000	0.000	0.000	0.725	0.000	0.725	0.767
Entering Leg	17	0	0	17	0	0	0	0	0	29	0	29	46
Exiting Leg				29								17	46
Total				46				0				46	92

PDI File #: **207450 D**
 Location: **S: Pine Court**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Articulated Trucks

	Massachusetts Avenue					Pine Court					Massachusetts Avenue					Total
	from East					from South					from West					
	Thru	Left	U-Turn	Total		Right	Left	U-Turn	Total		Right	Thru	U-Turn	Total		
7:00 AM	0	0	0	0		0	0	0	0		0	2	0	2		
7:15 AM	0	0	0	0		0	0	0	0		0	2	0	2		
7:30 AM	0	0	0	0		0	0	0	0		0	1	0	1		
7:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		
Total	0	0	0	0		0	0	0	0		0	5	0	5		
8:00 AM	0	0	0	0		0	0	0	0		0	0	0	0		
8:15 AM	1	0	0	1		0	0	0	0		0	1	0	1		
8:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		
8:45 AM	2	0	0	2		0	0	0	0		0	0	0	0		
Total	3	0	0	3		0	0	0	0		0	1	0	1		
Grand Total	3	0	0	3		0	0	0	0		0	6	0	6		
Approach %	100.0	0.0	0.0			0.0	0.0	0.0			0.0	100.0	0.0			
Total %	33.3	0.0	0.0	33.3		0.0	0.0	0.0	0.0		0.0	66.7	0.0	66.7		
Exiting Leg Total	6					0					3					9

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Massachusetts Avenue				Pine Court				Massachusetts Avenue				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	2
7:15 AM	0	0	0	0	0	0	0	0	0	2	0	2	2
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	5	0	5	5
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.625	0.625
Entering Leg	0	0	0	0	0	0	0	0	0	5	0	5	5
Exiting Leg				5				0				0	5
Total				5				0				5	10

PDI File #: **207450 D**
 Location: **S: Pine Court**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**



Class: **Bicycles (on Roadway and Crosswalks)**

	Massachusetts Avenue						Pine Court						Massachusetts Avenue						Total	
	from East						from South						from West							
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	3	0	0	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0	2	5
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	0	0	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0	2	5
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
8:30 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0	3	4
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	1	0	0	0	0	0	0	0	4	0	0	0	0	4	5
Grand Total	4	0	0	0	0	4	0	0	0	0	0	0	0	6	0	0	0	0	6	10
Approach %	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0			
Total %	40.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	0.0	60.0		
Exiting Leg Total	6						0						4						10	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Massachusetts Avenue						Pine Court						Massachusetts Avenue						Total	
	from East						from South						from West							
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total		
7:30 AM	3	0	0	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0	2	5
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Total Volume	3	0	0	0	0	3	0	0	0	0	0	0	0	3	0	0	0	0	3	6
% Approach Total	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.000	0.375		0.300
Entering Leg	3	0	0	0	0	3	0	0	0	0	0	0	0	3	0	0	0	3		6
Exiting Leg						3						0						3		6
Total						6						0						6		12

PDI File #: **207450 D**
 Location: **S: Pine Court**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**



Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**

Class:

Pedestrians

	Massachusetts Avenue						Pine Court						Massachusetts Avenue						Total	
	from East						from South						from West							
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total		
7:00 AM	0	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	0	0	0	4
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	0	4
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	3	7	10	0	0	0	0	0	0	10
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	3
Total	0	0	0	0	0	0	0	0	0	0	1	4	5	0	0	0	0	0	0	5
Grand Total	0	0	0	0	0	0	0	0	0	0	4	11	15	0	0	0	0	0	0	15
Approach %	0	0	0	0	0	0	0	0	0	0	26.667	73.333		0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	26.667	73.333	100	0	0	0	0	0	0	
Exiting Leg Total	0						15						0						15	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Massachusetts Avenue						Pine Court						Massachusetts Avenue						Total
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	0	0	0	4
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	0	4
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	3	7	10	0	0	0	0	0	0	10
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	30.0	70.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.438	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.625
Entering Leg	0	0	0	0	0	0	0	0	0	3	7	10	0	0	0	0	0	0	10
Exiting Leg	0						10						0						10
Total	0						20						0						20

PDI File #: **207450 DD**
 Location: **S: Pine Court**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Cars and Heavy Vehicles (Combined)

	Massachusetts Avenue				Pine Court				Massachusetts Avenue				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
4:00 PM	118	0	0	118	0	0	0	0	1	127	0	128	246
4:15 PM	99	1	0	100	0	0	0	0	0	121	0	121	221
4:30 PM	111	0	0	111	0	1	0	1	0	128	0	128	240
4:45 PM	117	0	1	118	0	0	0	0	0	147	0	147	265
Total	445	1	1	447	0	1	0	1	1	523	0	524	972
5:00 PM	122	1	0	123	1	0	0	1	1	130	0	131	255
5:15 PM	99	0	0	99	0	0	0	0	1	151	0	152	251
5:30 PM	99	1	0	100	0	0	0	0	1	160	0	161	261
5:45 PM	123	0	0	123	0	1	0	1	0	147	0	147	271
Total	443	2	0	445	1	1	0	2	3	588	0	591	1038
Grand Total	888	3	1	892	1	2	0	3	4	1111	0	1115	2010
Approach %	99.6	0.3	0.1		33.3	66.7	0.0		0.4	99.6	0.0		
Total %	44.2	0.1	0.0	44.4	0.0	0.1	0.0	0.1	0.2	55.3	0.0	55.5	
Exiting Leg Total				1113				7				890	2010
Cars	864	3	1	868	1	2	0	3	4	1087	0	1091	1962
% Cars	97.3	100.0	100.0	97.3	100.0	100.0	0.0	100.0	100.0	97.8	0.0	97.8	97.6
Exiting Leg Total				1089				7				866	1962
Heavy Vehicles	24	0	0	24	0	0	0	0	0	24	0	24	48
% Heavy Vehicles	2.7	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	2.2	0.0	2.2	2.4
Exiting Leg Total				24				0				24	48

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Massachusetts Avenue				Pine Court				Massachusetts Avenue				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
5:00 PM	122	1	0	123	1	0	0	1	1	130	0	131	255
5:15 PM	99	0	0	99	0	0	0	0	1	151	0	152	251
5:30 PM	99	1	0	100	0	0	0	0	1	160	0	161	261
5:45 PM	123	0	0	123	0	1	0	1	0	147	0	147	271
Total Volume	443	2	0	445	1	1	0	2	3	588	0	591	1038
% Approach Total	99.6	0.4	0.0		50.0	50.0	0.0		0.5	99.5	0.0		
PHF	0.900	0.500	0.000	0.904	0.250	0.250	0.000	0.500	0.750	0.919	0.000	0.918	0.958
Cars	429	2	0	431	1	1	0	2	3	577	0	580	1013
Cars %	96.8	100.0	0.0	96.9	100.0	100.0	0.0	100.0	100.0	98.1	0.0	98.1	97.6
Heavy Vehicles	14	0	0	14	0	0	0	0	0	11	0	11	25
Heavy Vehicles %	3.2	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	1.9	0.0	1.9	2.4
Cars Enter Leg	429	2	0	431	1	1	0	2	3	577	0	580	1013
Heavy Enter Leg	14	0	0	14	0	0	0	0	0	11	0	11	25
Total Entering Leg	443	2	0	445	1	1	0	2	3	588	0	591	1038
Cars Exiting Leg				578				5				430	1013
Heavy Exiting Leg				11				0				14	25
Total Exiting Leg				589				5				444	1038

PDI File #: **207450 DD**
 Location: **S: Pine Court**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**



Class: **Cars**

	Massachusetts Avenue				Pine Court					Massachusetts Avenue				Total
	from East				from South					from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total		
4:00 PM	115	0	0	115	0	0	0	0	1	123	0	124	239	
4:15 PM	97	1	0	98	0	0	0	0	0	118	0	118	216	
4:30 PM	108	0	0	108	0	1	0	1	0	126	0	126	235	
4:45 PM	115	0	1	116	0	0	0	0	0	143	0	143	259	
Total	435	1	1	437	0	1	0	1	1	510	0	511	949	
5:00 PM	114	1	0	115	1	0	0	1	1	127	0	128	244	
5:15 PM	98	0	0	98	0	0	0	0	1	148	0	149	247	
5:30 PM	98	1	0	99	0	0	0	0	1	157	0	158	257	
5:45 PM	119	0	0	119	0	1	0	1	0	145	0	145	265	
Total	429	2	0	431	1	1	0	2	3	577	0	580	1013	
Grand Total	864	3	1	868	1	2	0	3	4	1087	0	1091	1962	
Approach %	99.5	0.3	0.1		33.3	66.7	0.0		0.4	99.6	0.0			
Total %	44.0	0.2	0.1	44.2	0.1	0.1	0.0	0.2	0.2	55.4	0.0	55.6		
Exiting Leg Total	1089				7				866				1962	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Massachusetts Avenue				Pine Court				Massachusetts Avenue				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
5:00 PM	114	1	0	115	1	0	0	1	1	127	0	128	244
5:15 PM	98	0	0	98	0	0	0	0	1	148	0	149	247
5:30 PM	98	1	0	99	0	0	0	0	1	157	0	158	257
5:45 PM	119	0	0	119	0	1	0	1	0	145	0	145	265
Total Volume	429	2	0	431	1	1	0	2	3	577	0	580	1013
% Approach Total	99.5	0.5	0.0		50.0	50.0	0.0		0.5	99.5	0.0		
PHF	0.901	0.500	0.000	0.905	0.250	0.250	0.000	0.500	0.750	0.919	0.000	0.918	0.956
Entering Leg	429	2	0	431	1	1	0	2	3	577	0	580	1013
Exiting Leg				578				5				430	1013
Total				1009				7				1010	2026

PDI File #: **207450 DD**
 Location: **S: Pine Court**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**



Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Massachusetts Avenue				Pine Court				Massachusetts Avenue				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
4:00 PM	3	0	0	3	0	0	0	0	0	4	0	4	7
4:15 PM	2	0	0	2	0	0	0	0	0	3	0	3	5
4:30 PM	3	0	0	3	0	0	0	0	0	2	0	2	5
4:45 PM	2	0	0	2	0	0	0	0	0	4	0	4	6
Total	10	0	0	10	0	0	0	0	0	13	0	13	23
5:00 PM	8	0	0	8	0	0	0	0	0	3	0	3	11
5:15 PM	1	0	0	1	0	0	0	0	0	3	0	3	4
5:30 PM	1	0	0	1	0	0	0	0	0	3	0	3	4
5:45 PM	4	0	0	4	0	0	0	0	0	2	0	2	6
Total	14	0	0	14	0	0	0	0	0	11	0	11	25
Grand Total	24	0	0	24	0	0	0	0	0	24	0	24	48
Approach %	100.0	0.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
Total %	50.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	50.0	
Exiting Leg Total	24				0				24				48
Buses	16	0	0	16	0	0	0	0	0	18	0	18	34
% Buses	66.7	0.0	0.0	66.7	0.0	0.0	0.0	0.0	0.0	75.0	0.0	75.0	70.8
Exiting Leg Total	18				0				16				34
Single-Unit Trucks	6	0	0	6	0	0	0	0	0	5	0	5	11
% Single-Unit	25.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	20.8	0.0	20.8	22.9
Exiting Leg Total	5				0				6				11
Articulated Trucks	2	0	0	2	0	0	0	0	0	1	0	1	3
% Articulated	8.3	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	4.2	0.0	4.2	6.3
Exiting Leg Total	1				0				2				3

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Massachusetts Avenue				Pine Court				Massachusetts Avenue				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
4:15 PM	2	0	0	2	0	0	0	0	0	3	0	3	5
4:30 PM	3	0	0	3	0	0	0	0	0	2	0	2	5
4:45 PM	2	0	0	2	0	0	0	0	0	4	0	4	6
5:00 PM	8	0	0	8	0	0	0	0	0	3	0	3	11
Total Volume	15	0	0	15	0	0	0	0	0	12	0	12	27
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.469	0.000	0.000	0.469	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.750	0.614
Buses	10	0	0	10	0	0	0	0	0	8	0	8	18
Buses %	66.7	0.0	0.0	66.7	0.0	0.0	0.0	0.0	0.0	66.7	0.0	66.7	66.7
Single-Unit Trucks	3	0	0	3	0	0	0	0	0	3	0	3	6
Single-Unit %	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	25.0	22.2
Articulated Trucks	2	0	0	2	0	0	0	0	0	1	0	1	3
Articulated %	13.3	0.0	0.0	13.3	0.0	0.0	0.0	0.0	0.0	8.3	0.0	8.3	11.1
Buses	10	0	0	10	0	0	0	0	0	8	0	8	18
Single-Unit Trucks	3	0	0	3	0	0	0	0	0	3	0	3	6
Articulated Trucks	2	0	0	2	0	0	0	0	0	1	0	1	3
Total Entering Leg	15	0	0	15	0	0	0	0	0	12	0	12	27
Buses				8				0				10	18
Single-Unit Trucks				3				0				3	6
Articulated Trucks				1				0				2	3
Total Exiting Leg				12				0				15	27

PDI File #: **207450 DD**
 Location: **S: Pine Court**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**



Class: **Buses**

	Massachusetts Avenue					Pine Court					Massachusetts Avenue					Total
	from East					from South					from West					
	Thru	Left	U-Turn	Total		Right	Left	U-Turn	Total		Right	Thru	U-Turn	Total		
4:00 PM	2	0	0	0	2	0	0	0	0	0	0	3	0	0	3	5
4:15 PM	2	0	0	0	2	0	0	0	0	0	0	3	0	0	3	5
4:30 PM	2	0	0	0	2	0	0	0	0	0	0	1	0	0	1	3
4:45 PM	2	0	0	0	2	0	0	0	0	0	0	2	0	0	2	4
Total	8	0	0	0	8	0	0	0	0	0	0	9	0	0	9	17
5:00 PM	4	0	0	0	4	0	0	0	0	0	0	2	0	0	2	6
5:15 PM	1	0	0	0	1	0	0	0	0	0	0	3	0	0	3	4
5:30 PM	1	0	0	0	1	0	0	0	0	0	0	2	0	0	2	3
5:45 PM	2	0	0	0	2	0	0	0	0	0	0	2	0	0	2	4
Total	8	0	0	0	8	0	0	0	0	0	0	9	0	0	9	17
Grand Total	16	0	0	0	16	0	0	0	0	0	0	18	0	0	18	34
Approach %	100.0	0.0	0.0			0.0	0.0	0.0			0.0	100.0	0.0			
Total %	47.1	0.0	0.0	0.0	47.1	0.0	0.0	0.0	0.0	0.0	0.0	52.9	0.0	0.0	52.9	
Exiting Leg Total	18					0					16					34

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Massachusetts Avenue				Pine Court				Massachusetts Avenue				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
4:15 PM	2	0	0	2	0	0	0	0	0	3	0	3	5
4:30 PM	2	0	0	2	0	0	0	0	0	1	0	1	3
4:45 PM	2	0	0	2	0	0	0	0	0	2	0	2	4
5:00 PM	4	0	0	4	0	0	0	0	0	2	0	2	6
Total Volume	10	0	0	10	0	0	0	0	0	8	0	8	18
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.625	0.000	0.000	0.625	0.000	0.000	0.000	0.000	0.000	0.667	0.000	0.667	0.750
Entering Leg	10	0	0	10	0	0	0	0	0	8	0	8	18
Exiting Leg				8				0				10	18
Total				18				0				18	36

PDI File #: **207450 DD**
 Location: **S: Pine Court**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**



Class:

Single-Unit Trucks

	Massachusetts Avenue					Pine Court					Massachusetts Avenue					Total
	from East					from South					from West					
	Thru	Left	U-Turn		Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total			
4:00 PM	1	0	0		1	0	0	0	0	0	0	1	0		1	2
4:15 PM	0	0	0		0	0	0	0	0	0	0	0	0		0	0
4:30 PM	1	0	0		1	0	0	0	0	0	0	0	0		0	1
4:45 PM	0	0	0		0	0	0	0	0	0	0	2	0		2	2
Total	2	0	0		2	0	0	0	0	0	0	3	0		3	5
5:00 PM	2	0	0		2	0	0	0	0	0	0	1	0		1	3
5:15 PM	0	0	0		0	0	0	0	0	0	0	0	0		0	0
5:30 PM	0	0	0		0	0	0	0	0	0	0	1	0		1	1
5:45 PM	2	0	0		2	0	0	0	0	0	0	0	0		0	2
Total	4	0	0		4	0	0	0	0	0	0	2	0		2	6
Grand Total	6	0	0		6	0	0	0	0	0	0	5	0		5	11
Approach %	100.0	0.0	0.0			0.0	0.0	0.0			0.0	100.0	0.0			
Total %	54.5	0.0	0.0		54.5	0.0	0.0	0.0	0.0		0.0	45.5	0.0		45.5	
Exiting Leg Total	5					0					6					11

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Massachusetts Avenue				Pine Court				Massachusetts Avenue				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	2	0	2	2
5:00 PM	2	0	0	2	0	0	0	0	0	1	0	1	3
Total Volume	3	0	0	3	0	0	0	0	0	3	0	3	6
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.375	0.000	0.000	0.375	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.375	0.500
Entering Leg	3	0	0	3	0	0	0	0	0	3	0	3	6
Exiting Leg				3								3	6
Total				6				0				6	12

PDI File #: **207450 DD**
 Location: **S: Pine Court**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Articulated Trucks

	Massachusetts Avenue					Pine Court					Massachusetts Avenue					Total
	from East					from South					from West					
	Thru	Left	U-Turn	Total		Right	Left	U-Turn	Total		Right	Thru	U-Turn	Total		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1
5:00 PM	2	0	0	2		0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	2		0	0	0	0	0	0	0	0	0	0	2
Grand Total	2	0	0	2		0	0	0	0	0	0	1	0	1		3
Approach %	100.0	0.0	0.0			0.0	0.0	0.0			0.0	100.0	0.0			
Total %	66.7	0.0	0.0	66.7		0.0	0.0	0.0	0.0		0.0	33.3	0.0	33.3		
Exiting Leg Total	1					0					2					3

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Massachusetts Avenue				Pine Court				Massachusetts Avenue				Total
	from East				from South				from West				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	2	0	0	2	0	0	0	0	0	0	0	0	2
Total Volume	2	0	0	2	0	0	0	0	0	1	0	1	3
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		
PHF	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.375
Entering Leg	2	0	0	2	0	0	0	0	0	1	0	1	3
Exiting Leg				1				0				2	3
Total				3				0				3	

PDI File #: **207450 DD**
 Location: **S: Pine Court**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**



Class: **Bicycles (on Roadway and Crosswalks)**

	Massachusetts Avenue						Pine Court						Massachusetts Avenue						Total
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total	1	0	0	0	0	1	0	0	0	0	0	0	0	3	0	0	0	3	4
5:00 PM	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	2
5:45 PM	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	7	0	0	0	0	7	0	0	0	0	0	0	0	1	0	0	0	1	8
Grand Total	8	0	0	0	0	8	0	0	0	0	0	0	0	4	0	0	0	4	12
Approach %	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		
Total %	66.7	0.0	0.0	0.0	0.0	66.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	0.0	33.3	
Exiting Leg Total	4						0						8						12

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Massachusetts Avenue						Pine Court						Massachusetts Avenue						Total	
	from East						from South						from West							
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total		
5:00 PM	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	2
5:45 PM	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Total Volume	7	0	0	0	0	7	0	0	0	0	0	0	0	1	0	0	0	0	1	8
% Approach Total	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0			
PHF	0.438	0.000	0.000	0.000	0.000	0.438	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250		0.500
Entering Leg	7	0	0	0	0	7	0	0	0	0	0	0	0	1	0	0	0	1		8
Exiting Leg						1						0							7	8
Total						8						0						8		16

PDI File #: 207450 DD
 Location: S: Pine Court
 Location: E: Massachusetts Avenue W: Massachusetts Avenue
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD



Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM

Class:

Pedestrians

	Massachusetts Avenue							Pine Court							Massachusetts Avenue							Total
	from East							from South							from West							
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total				
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	3	4	0	0	0	0	0	0	0	4	
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	3	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	3	4	7	0	0	0	0	0	0	0	7	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	2	
5:15 PM	0	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	0	0	0	0	4	
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	
Total	0	0	0	0	0	0	0	0	0	0	5	3	8	0	0	0	0	0	0	0	8	
Grand Total	0	0	0	0	0	0	0	0	0	0	8	7	15	0	0	0	0	0	0	0	15	
Approach %	0	0	0	0	0	0	0	0	0	0	53.333	46.667		0	0	0	0	0	0			
Total %	0	0	0	0	0	0	0	0	0	0	53.333	46.667	100	0	0	0	0	0	0	0		
Exiting Leg Total	0							15							0							15

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Massachusetts Avenue						Pine Court						Massachusetts Avenue						Total
	from East						from South						from West						
	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	U-Turn	CW-NB	CW-SB	Total	
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	0	0	0	4
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	5	3	8	0	0	0	0	0	0	8
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	62.5	37.5		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.417	0.375	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.500
Entering Leg	0	0	0	0	0	0	0	0	0	5	3	8	0	0	0	0	0	0	8
Exiting Leg	0						8						0						8
Total	0						16						0						16

PDI File #: **207450 E**
 Location: **N: Quinn Road (Mirak Mill Park East Driveway)**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class: **Cars and Heavy Vehicles (Combined)**



	Quinn Road (Mirak Mill Park East Driveway)				Massachusetts Avenue				Massachusetts Avenue				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	1	94	0	95	110	4	0	114	209
7:15 AM	0	0	0	0	4	81	0	85	109	5	0	114	199
7:30 AM	1	0	0	1	2	135	0	137	124	2	0	126	264
7:45 AM	2	1	0	3	2	146	0	148	131	10	0	141	292
Total	3	1	0	4	9	456	0	465	474	21	0	495	964
8:00 AM	2	0	0	2	5	148	0	153	99	10	0	109	264
8:15 AM	2	2	0	4	1	102	0	103	98	5	0	103	210
8:30 AM	1	3	0	4	3	107	0	110	117	1	0	118	232
8:45 AM	2	3	0	5	4	127	0	131	109	3	0	112	248
Total	7	8	0	15	13	484	0	497	423	19	0	442	954
Grand Total	10	9	0	19	22	940	0	962	897	40	0	937	1918
Approach %	52.6	47.4	0.0		2.3	97.7	0.0		95.7	4.3	0.0		
Total %	0.5	0.5	0.0	1.0	1.1	49.0	0.0	50.2	46.8	2.1	0.0	48.9	
Exiting Leg Total	62				906				950				1918
Cars	9	9	0	18	21	880	0	901	829	38	0	867	1786
% Cars	90.0	100.0	0.0	94.7	95.5	93.6	0.0	93.7	92.4	95.0	0.0	92.5	93.1
Exiting Leg Total	59				838				889				1786
Heavy Vehicles	1	0	0	1	1	60	0	61	68	2	0	70	132
% Heavy Vehicles	10.0	0.0	0.0	5.3	4.5	6.4	0.0	6.3	7.6	5.0	0.0	7.5	6.9
Exiting Leg Total	3				68				61				132

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Quinn Road (Mirak Mill Park East Driveway)				Massachusetts Avenue				Massachusetts Avenue				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:30 AM	1	0	0	1	2	135	0	137	124	2	0	126	264
7:45 AM	2	1	0	3	2	146	0	148	131	10	0	141	292
8:00 AM	2	0	0	2	5	148	0	153	99	10	0	109	264
8:15 AM	2	2	0	4	1	102	0	103	98	5	0	103	210
Total Volume	7	3	0	10	10	531	0	541	452	27	0	479	1030
% Approach Total	70.0	30.0	0.0		1.8	98.2	0.0		94.4	5.6	0.0		
PHF	0.875	0.375	0.000	0.625	0.500	0.897	0.000	0.884	0.863	0.675	0.000	0.849	0.882
Cars	6	3	0	9	10	505	0	515	415	26	0	441	965
Cars %	85.7	100.0	0.0	90.0	100.0	95.1	0.0	95.2	91.8	96.3	0.0	92.1	93.7
Heavy Vehicles	1	0	0	1	0	26	0	26	37	1	0	38	65
Heavy Vehicles %	14.3	0.0	0.0	10.0	0.0	4.9	0.0	4.8	8.2	3.7	0.0	7.9	6.3
Cars Enter Leg	6	3	0	9	10	505	0	515	415	26	0	441	965
Heavy Enter Leg	1	0	0	1	0	26	0	26	37	1	0	38	65
Total Entering Leg	7	3	0	10	10	531	0	541	452	27	0	479	1030
Cars Exiting Leg	36				418				511				965
Heavy Exiting Leg	1				37				27				65
Total Exiting Leg	37				455				538				1030

PDI File #: **207450 E**
 Location: **N: Quinn Road (Mirak Mill Park East Driveway)**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars

	Quinn Road (Mirak Mill Park East Driveway)				Massachusetts Avenue				Massachusetts Avenue				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	1	83	0	84	98	3	0	101	185
7:15 AM	0	0	0	0	3	74	0	77	103	5	0	108	185
7:30 AM	0	0	0	0	2	127	0	129	114	2	0	116	245
7:45 AM	2	1	0	3	2	140	0	142	121	10	0	131	276
Total	2	1	0	3	8	424	0	432	436	20	0	456	891
8:00 AM	2	0	0	2	5	141	0	146	92	10	0	102	250
8:15 AM	2	2	0	4	1	97	0	98	88	4	0	92	194
8:30 AM	1	3	0	4	3	98	0	101	111	1	0	112	217
8:45 AM	2	3	0	5	4	120	0	124	102	3	0	105	234
Total	7	8	0	15	13	456	0	469	393	18	0	411	895
Grand Total	9	9	0	18	21	880	0	901	829	38	0	867	1786
Approach %	50.0	50.0	0.0		2.3	97.7	0.0		95.6	4.4	0.0		
Total %	0.5	0.5	0.0	1.0	1.2	49.3	0.0	50.4	46.4	2.1	0.0	48.5	
Exiting Leg Total	59				838				889				1786

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Quinn Road (Mirak Mill Park East Driveway)				Massachusetts Avenue				Massachusetts Avenue				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:30 AM	0	0	0	0	2	127	0	129	114	2	0	116	245
7:45 AM	2	1	0	3	2	140	0	142	121	10	0	131	276
8:00 AM	2	0	0	2	5	141	0	146	92	10	0	102	250
8:15 AM	2	2	0	4	1	97	0	98	88	4	0	92	194
Total Volume	6	3	0	9	10	505	0	515	415	26	0	441	965
% Approach Total	66.7	33.3	0.0		1.9	98.1	0.0		94.1	5.9	0.0		
PHF	0.750	0.375	0.000	0.563	0.500	0.895	0.000	0.882	0.857	0.650	0.000	0.842	0.874
Entering Leg	6	3	0	9	10	505	0	515	415	26	0	441	965
Exiting Leg				36				418				511	965
Total				45				933				952	1930

PDI File #: **207450 E**
 Location: **N: Quinn Road (Mirak Mill Park East Driveway)**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**



Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Quinn Road (Mirak Mill Park East Driveway)				Massachusetts Avenue				Massachusetts Avenue				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	11	0	11	12	1	0	13	24
7:15 AM	0	0	0	0	1	7	0	8	6	0	0	6	14
7:30 AM	1	0	0	1	0	8	0	8	10	0	0	10	19
7:45 AM	0	0	0	0	0	6	0	6	10	0	0	10	16
Total	1	0	0	1	1	32	0	33	38	1	0	39	73
8:00 AM	0	0	0	0	0	7	0	7	7	0	0	7	14
8:15 AM	0	0	0	0	0	5	0	5	10	1	0	11	16
8:30 AM	0	0	0	0	0	9	0	9	6	0	0	6	15
8:45 AM	0	0	0	0	0	7	0	7	7	0	0	7	14
Total	0	0	0	0	0	28	0	28	30	1	0	31	59
Grand Total	1	0	0	1	1	60	0	61	68	2	0	70	132
Approach %	100.0	0.0	0.0		1.6	98.4	0.0		97.1	2.9	0.0		
Total %	0.8	0.0	0.0	0.8	0.8	45.5	0.0	46.2	51.5	1.5	0.0	53.0	
Exiting Leg Total	3				68				61				132
Buses	0	0	0	0	0	24	0	24	21	0	0	21	45
% Buses	0.0	0.0	0.0	0.0	0.0	40.0	0.0	39.3	30.9	0.0	0.0	30.0	34.1
Exiting Leg Total	0				21				24				45
Single-Unit Trucks	1	0	0	1	1	34	0	35	41	2	0	43	79
% Single-Unit	100.0	0.0	0.0	100.0	100.0	56.7	0.0	57.4	60.3	100.0	0.0	61.4	59.8
Exiting Leg Total	3				41				35				79
Articulated Trucks	0	0	0	0	0	2	0	2	6	0	0	6	8
% Articulated	0.0	0.0	0.0	0.0	0.0	3.3	0.0	3.3	8.8	0.0	0.0	8.6	6.1
Exiting Leg Total	0				6				2				8

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Quinn Road (Mirak Mill Park East Driveway)				Massachusetts Avenue				Massachusetts Avenue				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	11	0	11	12	1	0	13	24
7:15 AM	0	0	0	0	1	7	0	8	6	0	0	6	14
7:30 AM	1	0	0	1	0	8	0	8	10	0	0	10	19
7:45 AM	0	0	0	0	0	6	0	6	10	0	0	10	16
Total Volume	1	0	0	1	1	32	0	33	38	1	0	39	73
% Approach Total	100.0	0.0	0.0		3.0	97.0	0.0		97.4	2.6	0.0		
PHF	0.250	0.000	0.000	0.250	0.250	0.727	0.000	0.750	0.792	0.250	0.000	0.750	0.760
Buses	0	0	0	0	0	15	0	15	9	0	0	9	24
Buses %	0.0	0.0	0.0	0.0	0.0	46.9	0.0	45.5	23.7	0.0	0.0	23.1	32.9
Single-Unit Trucks	1	0	0	1	1	16	0	17	24	1	0	25	43
Single-Unit %	100.0	0.0	0.0	100.0	100.0	50.0	0.0	51.5	63.2	100.0	0.0	64.1	58.9
Articulated Trucks	0	0	0	0	0	1	0	1	5	0	0	5	6
Articulated %	0.0	0.0	0.0	0.0	0.0	3.1	0.0	3.0	13.2	0.0	0.0	12.8	8.2
Buses	0	0	0	0	0	15	0	15	9	0	0	9	24
Single-Unit Trucks	1	0	0	1	1	16	0	17	24	1	0	25	43
Articulated Trucks	0	0	0	0	0	1	0	1	5	0	0	5	6
Total Entering Leg	1	0	0	1	1	32	0	33	38	1	0	39	73
Buses				0				9				15	24
Single-Unit Trucks				2				24				17	43
Articulated Trucks				0				5				1	6
Total Exiting Leg				2				38				33	73

PDI File #: **207450 E**
 Location: **N: Quinn Road (Mirak Mill Park East Driveway)**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Buses

	Quinn Road (Mirak Mill Park East Driveway)					Massachusetts Avenue				Massachusetts Avenue				Total
	from North					from East				from West				
	Right	Left	U-Turn	Total		Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	5	0	5	4	0	0	4	9
7:15 AM	0	0	0	0	0	0	4	0	4	2	0	0	2	6
7:30 AM	0	0	0	0	0	0	3	0	3	0	0	0	0	3
7:45 AM	0	0	0	0	0	0	3	0	3	3	0	0	3	6
Total	0	0	0	0	0	0	15	0	15	9	0	0	9	24
8:00 AM	0	0	0	0	0	0	3	0	3	4	0	0	4	7
8:15 AM	0	0	0	0	0	0	0	0	0	4	0	0	4	4
8:30 AM	0	0	0	0	0	0	3	0	3	2	0	0	2	5
8:45 AM	0	0	0	0	0	0	3	0	3	2	0	0	2	5
Total	0	0	0	0	0	0	9	0	9	12	0	0	12	21
Grand Total	0	0	0	0	0	0	24	0	24	21	0	0	21	45
Approach %	0.0	0.0	0.0			0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0		0.0	53.3	0.0	53.3	46.7	0.0	0.0	46.7	
Exiting Leg Total	0					21				24				45

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Quinn Road (Mirak Mill Park East Driveway)				Massachusetts Avenue				Massachusetts Avenue				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	5	0	5	4	0	0	4	9
7:15 AM	0	0	0	0	0	4	0	4	2	0	0	2	6
7:30 AM	0	0	0	0	0	3	0	3	0	0	0	0	3
7:45 AM	0	0	0	0	0	3	0	3	3	0	0	3	6
Total Volume	0	0	0	0	0	15	0	15	9	0	0	9	24
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.750	0.000	0.750	0.563	0.000	0.000	0.563	0.667
Entering Leg	0	0	0	0	0	15	0	15	9	0	0	9	24
Exiting Leg				0				9				15	24
Total				0				24				24	48

PDI File #: **207450 E**
 Location: **N: Quinn Road (Mirak Mill Park East Driveway)**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Single-Unit Trucks

	Quinn Road (Mirak Mill Park East Driveway)					Massachusetts Avenue				Massachusetts Avenue				Total
	from North					from East				from West				
	Right	Left	U-Turn	Total		Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	6	0	6	6	1	0	7	13
7:15 AM	0	0	0	0	0	1	3	0	4	3	0	0	3	7
7:30 AM	1	0	0	1	0	0	5	0	5	9	0	0	9	15
7:45 AM	0	0	0	0	0	0	2	0	2	6	0	0	6	8
Total	1	0	0	1	1	1	16	0	17	24	1	0	25	43
8:00 AM	0	0	0	0	0	0	4	0	4	3	0	0	3	7
8:15 AM	0	0	0	0	0	0	4	0	4	5	1	0	6	10
8:30 AM	0	0	0	0	0	0	6	0	6	4	0	0	4	10
8:45 AM	0	0	0	0	0	0	4	0	4	5	0	0	5	9
Total	0	0	0	0	0	0	18	0	18	17	1	0	18	36
Grand Total	1	0	0	1	1	1	34	0	35	41	2	0	43	79
Approach %	100.0	0.0	0.0			2.9	97.1	0.0		95.3	4.7	0.0		
Total %	1.3	0.0	0.0	1.3		1.3	43.0	0.0	44.3	51.9	2.5	0.0	54.4	
Exiting Leg Total	3					41				35				79

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Quinn Road (Mirak Mill Park East Driveway)				Massachusetts Avenue				Massachusetts Avenue				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	6	0	6	6	1	0	7	13
7:15 AM	0	0	0	0	1	3	0	4	3	0	0	3	7
7:30 AM	1	0	0	1	0	5	0	5	9	0	0	9	15
7:45 AM	0	0	0	0	0	2	0	2	6	0	0	6	8
Total Volume	1	0	0	1	1	16	0	17	24	1	0	25	43
% Approach Total	100.0	0.0	0.0		5.9	94.1	0.0		96.0	4.0	0.0		
PHF	0.250	0.000	0.000	0.250	0.250	0.667	0.000	0.708	0.667	0.250	0.000	0.694	0.717
Entering Leg	1	0	0	1	1	16	0	17	24	1	0	25	43
Exiting Leg				2				24				17	43
Total				3				41				42	86

PDI File #: **207450 E**
 Location: **N: Quinn Road (Mirak Mill Park East Driveway)**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Articulated Trucks

	Quinn Road (Mirak Mill Park East Driveway)					Massachusetts Avenue				Massachusetts Avenue				Total
	from North					from East				from West				
	Right	Left	U-Turn	Total		Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	2	0	0	2	2
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	0	0	0	0	1	0	1	1	0	0	1	2
Total	0	0	0	0	0	0	1	0	1	5	0	0	5	6
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	1	0	1	1	0	0	1	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	1	1	0	0	1	2
Grand Total	0	0	0	0	0	0	2	0	2	6	0	0	6	8
Approach %	0.0	0.0	0.0			0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0		0.0	25.0	0.0	25.0	75.0	0.0	0.0	75.0	
Exiting Leg Total	0					6				2				8

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Quinn Road (Mirak Mill Park East Driveway)				Massachusetts Avenue				Massachusetts Avenue				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	2	0	0	2	2
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
Total Volume	0	0	0	0	0	1	0	1	5	0	0	5	6
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.625	0.000	0.000	0.625	0.750
Entering Leg	0	0	0	0	0	1	0	1	5	0	0	5	6
Exiting Leg				0				5				1	6
Total				0				6				6	12

PDI File #: 207450 E
 Location: N: Quinn Road (Mirak Mill Park East Driveway)
 Location: E: Massachusetts Avenue W: Massachusetts Avenue
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD



Count Date: Tuesday, February 4, 2020
 Start Time: 7:00 AM
 End Time: 9:00 AM

Class: Bicycles (on Roadway and Crosswalks)

	Quinn Road (Mirak Mill Park East Driveway)						Massachusetts Avenue						Massachusetts Avenue						Total	
	from North						from East						from West							
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	3	0	0	0	3	1	0	0	0	0	0	1	4
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	3	0	0	0	3	1	0	0	0	0	0	1	4
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	1	3	0	0	0	0	0	3	4
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	1	0	0	0	1	4	0	0	0	0	0	4	5
Grand Total	0	0	0	0	0	0	0	4	0	0	0	4	5	0	0	0	0	0	5	9
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0			
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	44.4	0.0	0.0	0.0	44.4	55.6	0.0	0.0	0.0	0.0	55.6		
Exiting Leg Total	0						5						4						9	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Quinn Road (Mirak Mill Park East Driveway)						Massachusetts Avenue						Massachusetts Avenue						Total	
	from North						from East						from West							
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
7:30 AM	0	0	0	0	0	0	0	3	0	0	0	3	1	0	0	0	0	0	1	4
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
Total Volume	0	0	0	0	0	0	0	3	0	0	0	3	2	0	0	0	0	0	2	5
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0			
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.500	0.000	0.000	0.000	0.000	0.500		0.313
Entering Leg	0	0	0	0	0	0	0	3	0	0	0	3	2	0	0	0	0	2		5
Exiting Leg	0						2						3						5	
Total	0						5						5						10	

PDI File #: **207450 E**
 Location: **N: Quinn Road (Mirak Mill Park East Driveway)**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Pedestrians

	Quinn Road (Mirak Mill Park East Driveway)						Massachusetts Avenue						Massachusetts Avenue						Total	
	from North						from East						from West							
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
7:00 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:30 AM	0	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
7:45 AM	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	0	7	3	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	2
8:30 AM	0	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:45 AM	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	0	4	4	8	0	0	0	1	0	1	0	0	0	0	0	0	0	9
Grand Total	0	0	0	11	7	18	0	0	0	1	0	1	0	0	0	0	0	0	0	19
Approach %	0	0	0	61.111	38.889		0	0	0	100	0		0	0	0	0	0			
Total %	0	0	0	57.895	36.842	94.737	0	0	0	5.2632	0	5.2632	0	0	0	0	0	0	0	
Exiting Leg Total	18						1						0						19	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Quinn Road (Mirak Mill Park East Driveway)						Massachusetts Avenue						Massachusetts Avenue						Total	
	from North						from East						from West							
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
7:00 AM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
7:30 AM	0	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
7:45 AM	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	0	0	7	3	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10
% Approach Total	0.0	0.0	0.0	70.0	30.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0			
PHF	0.000	0.000	0.000	0.583	0.250	0.625	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.625
Entering Leg	0	0	0	7	3	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Exiting Leg	10						0						0						10	
Total	20						0						0						20	

PDI File #: **207450 EE**
 Location: **N: Quinn Road (Mirak Mill Park East Driveway)**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class: **Cars and Heavy Vehicles (Combined)**



	Quinn Road (Mirak Mill Park East Driveway)				Massachusetts Avenue				Massachusetts Avenue				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	7	1	0	8	1	113	0	114	123	3	0	126	248
4:15 PM	1	3	0	4	1	96	0	97	118	2	0	120	221
4:30 PM	9	1	0	10	1	102	0	103	125	2	0	127	240
4:45 PM	3	1	0	4	0	112	0	112	145	3	0	148	264
Total	20	6	0	26	3	423	0	426	511	10	0	521	973
5:00 PM	10	6	0	16	1	114	0	115	130	2	0	132	263
5:15 PM	4	1	0	5	2	95	0	97	151	0	0	151	253
5:30 PM	2	5	0	7	2	97	0	99	159	1	0	160	266
5:45 PM	3	1	0	4	0	120	0	120	143	1	0	144	268
Total	19	13	0	32	5	426	0	431	583	4	0	587	1050
Grand Total	39	19	0	58	8	849	0	857	1094	14	0	1108	2023
Approach %	67.2	32.8	0.0		0.9	99.1	0.0		98.7	1.3	0.0		
Total %	1.9	0.9	0.0	2.9	0.4	42.0	0.0	42.4	54.1	0.7	0.0	54.8	
Exiting Leg Total	22				1113				888				2023
Cars	38	19	0	57	8	826	0	834	1071	14	0	1085	1976
% Cars	97.4	100.0	0.0	98.3	100.0	97.3	0.0	97.3	97.9	100.0	0.0	97.9	97.7
Exiting Leg Total	22				1090				864				1976
Heavy Vehicles	1	0	0	1	0	23	0	23	23	0	0	23	47
% Heavy Vehicles	2.6	0.0	0.0	1.7	0.0	2.7	0.0	2.7	2.1	0.0	0.0	2.1	2.3
Exiting Leg Total	0				23				24				47

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Quinn Road (Mirak Mill Park East Driveway)				Massachusetts Avenue				Massachusetts Avenue				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
5:00 PM	10	6	0	16	1	114	0	115	130	2	0	132	263
5:15 PM	4	1	0	5	2	95	0	97	151	0	0	151	253
5:30 PM	2	5	0	7	2	97	0	99	159	1	0	160	266
5:45 PM	3	1	0	4	0	120	0	120	143	1	0	144	268
Total Volume	19	13	0	32	5	426	0	431	583	4	0	587	1050
% Approach Total	59.4	40.6	0.0		1.2	98.8	0.0		99.3	0.7	0.0		
PHF	0.475	0.542	0.000	0.500	0.625	0.888	0.000	0.898	0.917	0.500	0.000	0.917	0.979
Cars	18	13	0	31	5	414	0	419	573	4	0	577	1027
Cars %	94.7	100.0	0.0	96.9	100.0	97.2	0.0	97.2	98.3	100.0	0.0	98.3	97.8
Heavy Vehicles	1	0	0	1	0	12	0	12	10	0	0	10	23
Heavy Vehicles %	5.3	0.0	0.0	3.1	0.0	2.8	0.0	2.8	1.7	0.0	0.0	1.7	2.2
Cars Enter Leg	18	13	0	31	5	414	0	419	573	4	0	577	1027
Heavy Enter Leg	1	0	0	1	0	12	0	12	10	0	0	10	23
Total Entering Leg	19	13	0	32	5	426	0	431	583	4	0	587	1050
Cars Exiting Leg	9				586				432				1027
Heavy Exiting Leg	0				10				13				23
Total Exiting Leg	9				596				445				1050

PDI File #: **207450 EE**
 Location: **N: Quinn Road (Mirak Mill Park East Driveway)**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Cars

	Quinn Road (Mirak Mill Park East Driveway)				Massachusetts Avenue				Massachusetts Avenue				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	7	1	0	8	1	110	0	111	119	3	0	122	241
4:15 PM	1	3	0	4	1	94	0	95	115	2	0	117	216
4:30 PM	9	1	0	10	1	98	0	99	123	2	0	125	234
4:45 PM	3	1	0	4	0	110	0	110	141	3	0	144	258
Total	20	6	0	26	3	412	0	415	498	10	0	508	949
5:00 PM	9	6	0	15	1	107	0	108	128	2	0	130	253
5:15 PM	4	1	0	5	2	94	0	96	148	0	0	148	249
5:30 PM	2	5	0	7	2	96	0	98	156	1	0	157	262
5:45 PM	3	1	0	4	0	117	0	117	141	1	0	142	263
Total	18	13	0	31	5	414	0	419	573	4	0	577	1027
Grand Total	38	19	0	57	8	826	0	834	1071	14	0	1085	1976
Approach %	66.7	33.3	0.0		1.0	99.0	0.0		98.7	1.3	0.0		
Total %	1.9	1.0	0.0	2.9	0.4	41.8	0.0	42.2	54.2	0.7	0.0	54.9	
Exiting Leg Total	22				1090				864				1976

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Quinn Road (Mirak Mill Park East Driveway)				Massachusetts Avenue				Massachusetts Avenue				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
5:00 PM	9	6	0	15	1	107	0	108	128	2	0	130	253
5:15 PM	4	1	0	5	2	94	0	96	148	0	0	148	249
5:30 PM	2	5	0	7	2	96	0	98	156	1	0	157	262
5:45 PM	3	1	0	4	0	117	0	117	141	1	0	142	263
Total Volume	18	13	0	31	5	414	0	419	573	4	0	577	1027
% Approach Total	58.1	41.9	0.0		1.2	98.8	0.0		99.3	0.7	0.0		
PHF	0.500	0.542	0.000	0.517	0.625	0.885	0.000	0.895	0.918	0.500	0.000	0.919	0.976
Entering Leg	18	13	0	31	5	414	0	419	573	4	0	577	1027
Exiting Leg				9				586				432	1027
Total				40				1005				1009	2054

PDI File #: **207450 EE**
 Location: **N: Quinn Road (Mirak Mill Park East Driveway)**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**



Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Quinn Road (Mirak Mill Park East Driveway)				Massachusetts Avenue				Massachusetts Avenue				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	3	0	3	4	0	0	4	7
4:15 PM	0	0	0	0	0	2	0	2	3	0	0	3	5
4:30 PM	0	0	0	0	0	4	0	4	2	0	0	2	6
4:45 PM	0	0	0	0	0	2	0	2	4	0	0	4	6
Total	0	0	0	0	0	11	0	11	13	0	0	13	24
5:00 PM	1	0	0	1	0	7	0	7	2	0	0	2	10
5:15 PM	0	0	0	0	0	1	0	1	3	0	0	3	4
5:30 PM	0	0	0	0	0	1	0	1	3	0	0	3	4
5:45 PM	0	0	0	0	0	3	0	3	2	0	0	2	5
Total	1	0	0	1	0	12	0	12	10	0	0	10	23
Grand Total	1	0	0	1	0	23	0	23	23	0	0	23	47
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	2.1	0.0	0.0	2.1	0.0	48.9	0.0	48.9	48.9	0.0	0.0	48.9	
Exiting Leg Total	0				23				24				47
Buses	0	0	0	0	0	16	0	16	18	0	0	18	34
% Buses	0.0	0.0	0.0	0.0	0.0	69.6	0.0	69.6	78.3	0.0	0.0	78.3	72.3
Exiting Leg Total	0				18				16				34
Single-Unit Trucks	0	0	0	0	0	6	0	6	4	0	0	4	10
% Single-Unit	0.0	0.0	0.0	0.0	0.0	26.1	0.0	26.1	17.4	0.0	0.0	17.4	21.3
Exiting Leg Total	0				4				6				10
Articulated Trucks	1	0	0	1	0	1	0	1	1	0	0	1	3
% Articulated	100.0	0.0	0.0	100.0	0.0	4.3	0.0	4.3	4.3	0.0	0.0	4.3	6.4
Exiting Leg Total	0				1				2				3

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Quinn Road (Mirak Mill Park East Driveway)				Massachusetts Avenue				Massachusetts Avenue				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:15 PM	0	0	0	0	0	2	0	2	3	0	0	3	5
4:30 PM	0	0	0	0	0	4	0	4	2	0	0	2	6
4:45 PM	0	0	0	0	0	2	0	2	4	0	0	4	6
5:00 PM	1	0	0	1	0	7	0	7	2	0	0	2	10
Total Volume	1	0	0	1	0	15	0	15	11	0	0	11	27
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.250	0.000	0.536	0.000	0.536	0.688	0.000	0.000	0.688	0.675
Buses	0	0	0	0	0	10	0	10	8	0	0	8	18
Buses %	0.0	0.0	0.0	0.0	0.0	66.7	0.0	66.7	72.7	0.0	0.0	72.7	66.7
Single-Unit Trucks	0	0	0	0	0	4	0	4	2	0	0	2	6
Single-Unit %	0.0	0.0	0.0	0.0	0.0	26.7	0.0	26.7	18.2	0.0	0.0	18.2	22.2
Articulated Trucks	1	0	0	1	0	1	0	1	1	0	0	1	3
Articulated %	100.0	0.0	0.0	100.0	0.0	6.7	0.0	6.7	9.1	0.0	0.0	9.1	11.1
Buses	0	0	0	0	0	10	0	10	8	0	0	8	18
Single-Unit Trucks	0	0	0	0	0	4	0	4	2	0	0	2	6
Articulated Trucks	1	0	0	1	0	1	0	1	1	0	0	1	3
Total Entering Leg	1	0	0	1	0	15	0	15	11	0	0	11	27
Buses	0				8				10				18
Single-Unit Trucks	0				2				4				6
Articulated Trucks	0				1				2				3
Total Exiting Leg	0				11				16				27

PDI File #: **207450 EE**
 Location: **N: Quinn Road (Mirak Mill Park East Driveway)**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Buses

	Quinn Road (Mirak Mill Park East Driveway)					Massachusetts Avenue				Massachusetts Avenue				Total
	from North					from East				from West				
	Right	Left	U-Turn	Total		Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	2	0	2	3	0	0	3	5
4:15 PM	0	0	0	0	0	0	2	0	2	3	0	0	3	5
4:30 PM	0	0	0	0	0	0	2	0	2	1	0	0	1	3
4:45 PM	0	0	0	0	0	0	2	0	2	2	0	0	2	4
Total	0	0	0	0	0	0	8	0	8	9	0	0	9	17
5:00 PM	0	0	0	0	0	0	4	0	4	2	0	0	2	6
5:15 PM	0	0	0	0	0	0	1	0	1	3	0	0	3	4
5:30 PM	0	0	0	0	0	0	1	0	1	2	0	0	2	3
5:45 PM	0	0	0	0	0	0	2	0	2	2	0	0	2	4
Total	0	0	0	0	0	0	8	0	8	9	0	0	9	17
Grand Total	0	0	0	0	0	0	16	0	16	18	0	0	18	34
Approach %	0.0	0.0	0.0			0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0		0.0	47.1	0.0	47.1	52.9	0.0	0.0	52.9	
Exiting Leg Total	0					18				16				34

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Quinn Road (Mirak Mill Park East Driveway)				Massachusetts Avenue				Massachusetts Avenue				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:15 PM	0	0	0	0	0	2	0	2	3	0	0	3	5
4:30 PM	0	0	0	0	0	2	0	2	1	0	0	1	3
4:45 PM	0	0	0	0	0	2	0	2	2	0	0	2	4
5:00 PM	0	0	0	0	0	4	0	4	2	0	0	2	6
Total Volume	0	0	0	0	0	10	0	10	8	0	0	8	18
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.625	0.000	0.625	0.667	0.000	0.000	0.667	0.750
Entering Leg	0	0	0	0	0	10	0	10	8	0	0	8	18
Exiting Leg				0				8				10	18
Total				0				18				18	36

PDI File #: **207450 EE**
 Location: **N: Quinn Road (Mirak Mill Park East Driveway)**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Single-Unit Trucks

	Quinn Road (Mirak Mill Park East Driveway)					Massachusetts Avenue				Massachusetts Avenue				Total
	from North					from East				from West				
	Right	Left	U-Turn	Total		Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	1	0	1	1	0	0	1	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	2	0	2	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total	0	0	0	0	0	0	3	0	3	3	0	0	3	6
5:00 PM	0	0	0	0	0	0	2	0	2	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:45 PM	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	3	0	3	1	0	0	1	4
Grand Total	0	0	0	0	0	0	6	0	6	4	0	0	4	10
Approach %	0.0	0.0	0.0			0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0		0.0	60.0	0.0	60.0	40.0	0.0	0.0	40.0	
Exiting Leg Total	0					4				6				10

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Quinn Road (Mirak Mill Park East Driveway)				Massachusetts Avenue				Massachusetts Avenue				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
Total Volume	0	0	0	0	0	3	0	3	3	0	0	3	6
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.375	0.000	0.375	0.375	0.000	0.000	0.375	0.750
Entering Leg	0	0	0	0	0	3	0	3	3	0	0	3	6
Exiting Leg				0				3				3	6
Total				0				6				6	12

PDI File #: **207450 EE**
 Location: **N: Quinn Road (Mirak Mill Park East Driveway)**
 Location: **E: Massachusetts Avenue W: Massachusetts Avenue**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Articulated Trucks

	Quinn Road (Mirak Mill Park East Driveway)					Massachusetts Avenue				Massachusetts Avenue				Total
	from North					from East				from West				
	Right	Left	U-Turn	Total		Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:00 PM	1	0	0	1	0	1	0	1	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	1	0	1	0	0	0	0	0	2
Grand Total	1	0	0	1	0	1	0	1	1	0	0	1	3	
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0			
Total %	33.3	0.0	0.0	33.3	0.0	33.3	0.0	33.3	33.3	0.0	0.0	33.3		
Exiting Leg Total	0					1				2				3

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Quinn Road (Mirak Mill Park East Driveway)				Massachusetts Avenue				Massachusetts Avenue				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	1	0	0	1	0	1	0	1	0	0	0	0	2
Total Volume	1	0	0	1	0	1	0	1	1	0	0	1	3
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.250	0.000	0.250	0.000	0.250	0.250	0.000	0.000	0.250	0.375
Entering Leg	1	0	0	1	0	1	0	1	1	0	0	1	3
Exiting Leg				0				1				2	3
Total				1				2				3	

PDI File #: 207450 EE
 Location: N: Quinn Road (Mirak Mill Park East Driveway)
 Location: E: Massachusetts Avenue W: Massachusetts Avenue
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM



Class: Bicycles (on Roadway and Crosswalks)

	Quinn Road (Mirak Mill Park East Driveway)						Massachusetts Avenue						Massachusetts Avenue						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	1	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Total	0	0	0	0	0	0	0	1	0	0	0	1	2	0	0	0	0	2	3
5:00 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	4	0	0	0	4	2	0	0	0	0	2	6
Total	0	0	0	0	0	0	0	7	0	0	0	7	2	0	0	0	0	2	9
Grand Total	0	0	0	0	0	0	0	8	0	0	0	8	4	0	0	0	0	4	12
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7	0.0	0.0	0.0	66.7	33.3	0.0	0.0	0.0	0.0	33.3	
Exiting Leg Total	0						4						8						12

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Quinn Road (Mirak Mill Park East Driveway)						Massachusetts Avenue						Massachusetts Avenue						
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total
5:00 PM	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	4	0	0	0	4	2	0	0	0	0	2	6
Total Volume	0	0	0	0	0	0	0	7	0	0	0	7	2	0	0	0	0	2	9
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.438	0.000	0.000	0.000	0.438	0.250	0.000	0.000	0.000	0.000	0.250	0.375
Entering Leg	0	0	0	0	0	0	0	7	0	0	0	7	2	0	0	0	0	2	9
Exiting Leg	0						2						7						9
Total	0						9						9						18

PDI File #: 207450 EE
 Location: N: Quinn Road (Mirak Mill Park East Driveway)
 Location: E: Massachusetts Avenue W: Massachusetts Avenue
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM
 Class:



Pedestrians

	Quinn Road (Mirak Mill Park East Driveway)						Massachusetts Avenue						Massachusetts Avenue						Total	
	from North						from East						from West							
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
4:00 PM	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2	
4:30 PM	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	3	
4:45 PM	0	0	0	4	4	8	0	0	0	0	0	0	0	0	0	0	0	0	8	
Total	0	0	0	7	7	14	0	0	0	0	0	0	0	0	0	0	1	1	15	
5:00 PM	0	0	0	4	3	7	0	0	0	0	0	0	0	0	0	0	0	0	7	
5:15 PM	0	0	0	1	1	2	0	0	0	0	0	1	1	0	0	0	0	0	3	
5:30 PM	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	
5:45 PM	0	0	0	3	2	5	0	0	0	0	0	0	0	0	0	0	0	0	5	
Total	0	0	0	11	6	17	0	0	0	0	0	1	1	0	0	0	0	0	18	
Grand Total	0	0	0	18	13	31	0	0	0	0	0	1	1	0	0	0	0	1	33	
Approach %	0	0	0	58.065	41.935		0	0	0	0	0	100		0	0	0	0	100		
Total %	0	0	0	54.545	39.394	93.939	0	0	0	0	0	3.0303	3.0303	0	0	0	0	3.0303	3.0303	
Exiting Leg Total	31						1						1						33	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Quinn Road (Mirak Mill Park East Driveway)						Massachusetts Avenue						Massachusetts Avenue						Total	
	from North						from East						from West							
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
4:30 PM	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4:45 PM	0	0	0	4	4	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8
5:00 PM	0	0	0	4	3	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
5:15 PM	0	0	0	1	1	2	0	0	0	0	0	1	1	0	0	0	0	0	0	3
Total Volume	0	0	0	9	11	20	0	0	0	0	0	1	1	0	0	0	0	0	0	21
% Approach Total	0.0	0.0	0.0	45.0	55.0		0.0	0.0	0.0	0.0	100.0			0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.563	0.688	0.625	0.000	0.000	0.000	0.000	0.250	0.250		0.000	0.000	0.000	0.000	0.000	0.000	0.656
Entering Leg	0	0	0	9	11	20	0	0	0	0	1	1		0	0	0	0	0	0	21
Exiting Leg	20						1						0						21	
Total	40						2						0						42	

PDI File #: **207450 F**
 Location: **N: Mill Bridge S: Mirak Mill East Driveway**
 Location: **E: Quinn Access Road W: Parking Lot**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars and Heavy Vehicles (Combined)

	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	0	1	0	1	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	4
7:15 AM	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	5
7:30 AM	0	0	1	0	1	0	0	0	0	0	1	5	0	0	6	1	0	0	0	1	8
7:45 AM	0	2	2	1	5	1	0	0	0	1	1	4	0	0	5	0	0	0	0	0	11
Total	0	3	4	1	8	1	0	1	0	2	3	14	0	0	17	1	0	0	0	1	28
8:00 AM	0	0	1	0	1	0	0	1	0	1	2	3	0	0	5	0	0	0	0	0	7
8:15 AM	0	0	0	0	0	0	0	1	0	1	4	6	1	0	11	0	0	0	0	0	12
8:30 AM	0	0	1	0	1	0	0	0	0	0	2	3	0	0	5	0	0	0	0	0	6
8:45 AM	0	2	0	0	2	0	0	1	0	1	6	1	0	0	7	0	0	0	0	0	10
Total	0	2	2	0	4	0	0	3	0	3	14	13	1	0	28	0	0	0	0	0	35
Grand Total	0	5	6	1	12	1	0	4	0	5	17	27	1	0	45	1	0	0	0	1	63
Approach %	0.0	41.7	50.0	8.3		20.0	0.0	80.0	0.0		37.8	60.0	2.2	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	7.9	9.5	1.6	19.0	1.6	0.0	6.3	0.0	7.9	27.0	42.9	1.6	0.0	71.4	1.6	0.0	0.0	0.0	1.6	
Exiting Leg Total	29					23					10					1					63
Cars	0	5	6	0	11	1	0	4	0	5	17	27	1	0	45	1	0	0	0	1	62
% Cars	0.0	100.0	100.0	0.0	91.7	100.0	0.0	100.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0	98.4
Exiting Leg Total	28					23					10					1					62
Heavy Vehicles	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Heavy Vehicles	0.0	0.0	0.0	100.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6
Exiting Leg Total	1					0					0					0					1

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:30 AM	0	0	1	0	1	0	0	0	0	0	1	5	0	0	6	1	0	0	0	1	8
7:45 AM	0	2	2	1	5	1	0	0	0	1	1	4	0	0	5	0	0	0	0	0	11
8:00 AM	0	0	1	0	1	0	0	1	0	1	2	3	0	0	5	0	0	0	0	0	7
8:15 AM	0	0	0	0	0	0	0	1	0	1	4	6	1	0	11	0	0	0	0	0	12
Total Volume	0	2	4	1	7	1	0	2	0	3	8	18	1	0	27	1	0	0	0	1	38
% Approach Total	0.0	28.6	57.1	14.3		33.3	0.0	66.7	0.0		29.6	66.7	3.7	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.500	0.250	0.350	0.250	0.000	0.500	0.000	0.750	0.500	0.750	0.250	0.000	0.614	0.250	0.000	0.000	0.000	0.250	0.792
Cars	0	2	4	0	6	1	0	2	0	3	8	18	1	0	27	1	0	0	0	1	37
Cars %	0.0	100.0	100.0	0.0	85.7	100.0	0.0	100.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0	97.4
Heavy Vehicles	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Heavy Vehicles %	0.0	0.0	0.0	100.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6
Cars Enter Leg	0	2	4	0	6	1	0	2	0	3	8	18	1	0	27	1	0	0	0	1	37
Heavy Enter Leg	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Entering Leg	0	2	4	1	7	1	0	2	0	3	8	18	1	0	27	1	0	0	0	1	38
Cars Exiting Leg	19					12					5					1					37
Heavy Exiting Leg	1					0					0					0					1
Total Exiting Leg	20					12					5					1					38

PDI File #: **207450 F**
 Location: **N: Mill Bridge S: Mirak Mill East Driveway**
 Location: **E: Quinn Access Road W: Parking Lot**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars

	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	0	1	0	1	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	4
7:15 AM	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	5
7:30 AM	0	0	1	0	1	0	0	0	0	0	1	5	0	0	6	1	0	0	0	1	8
7:45 AM	0	2	2	0	4	1	0	0	0	1	1	4	0	0	5	0	0	0	0	0	10
Total	0	3	4	0	7	1	0	1	0	2	3	14	0	0	17	1	0	0	0	1	27
8:00 AM	0	0	1	0	1	0	0	1	0	1	2	3	0	0	5	0	0	0	0	0	7
8:15 AM	0	0	0	0	0	0	0	1	0	1	4	6	1	0	11	0	0	0	0	0	12
8:30 AM	0	0	1	0	1	0	0	0	0	0	2	3	0	0	5	0	0	0	0	0	6
8:45 AM	0	2	0	0	2	0	0	1	0	1	6	1	0	0	7	0	0	0	0	0	10
Total	0	2	2	0	4	0	0	3	0	3	14	13	1	0	28	0	0	0	0	0	35
Grand Total	0	5	6	0	11	1	0	4	0	5	17	27	1	0	45	1	0	0	0	1	62
Approach %	0.0	45.5	54.5	0.0		20.0	0.0	80.0	0.0		37.8	60.0	2.2	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	8.1	9.7	0.0	17.7	1.6	0.0	6.5	0.0	8.1	27.4	43.5	1.6	0.0	72.6	1.6	0.0	0.0	0.0	1.6	
Exiting Leg Total	28					23					10					1					62

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:30 AM	0	0	1	0	1	0	0	0	0	0	1	5	0	0	6	1	0	0	0	1	8
7:45 AM	0	2	2	0	4	1	0	0	0	1	1	4	0	0	5	0	0	0	0	0	10
8:00 AM	0	0	1	0	1	0	0	1	0	1	2	3	0	0	5	0	0	0	0	0	7
8:15 AM	0	0	0	0	0	0	0	1	0	1	4	6	1	0	11	0	0	0	0	0	12
Total Volume	0	2	4	0	6	1	0	2	0	3	8	18	1	0	27	1	0	0	0	1	37
% Approach Total	0.0	33.3	66.7	0.0		33.3	0.0	66.7	0.0		29.6	66.7	3.7	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.500	0.000	0.375	0.250	0.000	0.500	0.000	0.750	0.500	0.750	0.250	0.000	0.614	0.250	0.000	0.000	0.000	0.250	0.771
Entering Leg	0	2	4	0	6	1	0	2	0	3	8	18	1	0	27	1	0	0	0	1	37
Exiting Leg	19					12					5					1					37
Total	25					15					32					2					74

PDI File #: **207450 F**
 Location: **N: Mill Bridge S: Mirak Mill East Driveway**
 Location: **E: Quinn Access Road W: Parking Lot**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**



	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	1					0					0					0					1
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total	0					0					0					0					0
Single-Unit Trucks	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Single-Unit	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Exiting Leg Total	1					0					0					0					1
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total	0					0					0					0					0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Total Volume	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
% Approach Total	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0			
PHF	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Single-Unit Trucks	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Single-Unit %	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Single-Unit Trucks	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Entering Leg	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Buses	0					0					0					0					0	0
Single-Unit Trucks	1					0					0					0					0	1
Articulated Trucks	0					0					0					0					0	0
Total Exiting Leg	1					0					0					0					0	1

PDI File #: **207450 F**
 Location: **N: Mill Bridge S: Mirak Mill East Driveway**
 Location: **E: Quinn Access Road W: Parking Lot**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Buses

	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	0					0					0					0					0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg	0					0					0					0					0
Total	0					0					0					0					0

PDI File #: **207450 F**
 Location: **N: Mill Bridge S: Mirak Mill East Driveway**
 Location: **E: Quinn Access Road W: Parking Lot**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Single-Unit Trucks

	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	1					0					0					0					1

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Entering Leg	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg	1					0					0					0					1
Total	2					0					0					0					2

PDI File #: **207450 F**
 Location: **N: Mill Bridge S: Mirak Mill East Driveway**
 Location: **E: Quinn Access Road W: Parking Lot**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Articulated Trucks

	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	0					0					0					0					0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg	0					0					0					0					0
Total	0					0					0					0					0

PDI File #: **207450 F**
 Location: **N: Mill Bridge S: Mirak Mill East Driveway**
 Location: **E: Quinn Access Road W: Parking Lot**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Bicycles (on Roadway and Crosswalks)

	Mill Bridge							Quinn Access Road							Mirak Mill East Driveway							Parking Lot							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	0							0							0							0							0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Mill Bridge							Quinn Access Road							Mirak Mill East Driveway							Parking Lot								
	from North							from East							from South							from West								
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg	0							0							0							0							0	
Total	0							0							0							0							0	

PDI File #: **207450 F**
 Location: **N: Mill Bridge S: Mirak Mill East Driveway**
 Location: **E: Quinn Access Road W: Parking Lot**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Pedestrians

	Mill Bridge							Quinn Access Road							Mirak Mill East Driveway							Parking Lot							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg Total	0							0							0							0							0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Mill Bridge							Quinn Access Road							Mirak Mill East Driveway							Parking Lot							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg	0							0							0							0							0
Total	0							0							0							0							0

PDI File #: **207450 FF**
 Location: **N: Mill Bridge S: Mirak Mill East Driveway**
 Location: **E: Quinn Access Road W: Parking Lot**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Cars and Heavy Vehicles (Combined)

	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	3	0	0	3	0	0	1	0	1	2	1	0	0	3	0	0	0	0	0	7
4:15 PM	0	1	0	0	1	0	0	3	0	3	0	1	0	0	1	0	0	0	0	0	5
4:30 PM	0	7	0	0	7	0	0	1	0	1	3	1	0	0	4	0	0	0	0	0	12
4:45 PM	0	5	0	0	5	0	0	4	0	4	1	0	0	0	1	0	0	0	0	0	10
Total	0	16	0	0	16	0	0	9	0	9	6	3	0	0	9	0	0	0	0	0	34
5:00 PM	0	7	0	0	7	0	0	3	0	3	1	1	0	0	2	1	0	0	0	1	13
5:15 PM	0	1	0	0	1	0	0	1	0	1	1	2	0	0	3	0	0	0	0	0	5
5:30 PM	0	4	0	0	4	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	6
5:45 PM	0	2	0	0	2	0	0	3	0	3	0	1	0	0	1	0	0	0	0	0	6
Total	0	14	0	0	14	0	0	7	0	7	2	4	1	0	7	2	0	0	0	2	30
Grand Total	0	30	0	0	30	0	0	16	0	16	8	7	1	0	16	2	0	0	0	2	64
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		50.0	43.8	6.3	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	46.9	0.0	0.0	46.9	0.0	0.0	25.0	0.0	25.0	12.5	10.9	1.6	0.0	25.0	3.1	0.0	0.0	0.0	3.1	
Exiting Leg Total	7					8					48					1					64
Cars	0	29	0	0	29	0	0	16	0	16	8	7	1	0	16	2	0	0	0	2	63
% Cars	0.0	96.7	0.0	0.0	96.7	0.0	0.0	100.0	0.0	100.0	100.0	100.0	100.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0	98.4
Exiting Leg Total	7					8					47					1					63
Heavy Vehicles	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Heavy Vehicles	0.0	3.3	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6
Exiting Leg Total	0					0					1					0					1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:15 PM	0	1	0	0	1	0	0	3	0	3	0	1	0	0	1	0	0	0	0	0	5
4:30 PM	0	7	0	0	7	0	0	1	0	1	3	1	0	0	4	0	0	0	0	0	12
4:45 PM	0	5	0	0	5	0	0	4	0	4	1	0	0	0	1	0	0	0	0	0	10
5:00 PM	0	7	0	0	7	0	0	3	0	3	1	1	0	0	2	1	0	0	0	1	13
Total Volume	0	20	0	0	20	0	0	11	0	11	5	3	0	0	8	1	0	0	0	1	40
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		62.5	37.5	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.714	0.000	0.000	0.714	0.000	0.000	0.688	0.000	0.688	0.417	0.750	0.000	0.000	0.500	0.250	0.000	0.000	0.000	0.250	0.769
Cars	0	20	0	0	20	0	0	11	0	11	5	3	0	0	8	1	0	0	0	1	40
Cars %	0.0	100.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	100.0	100.0	100.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0	100.0	100.0
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cars Enter Leg	0	20	0	0	20	0	0	11	0	11	5	3	0	0	8	1	0	0	0	1	40
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	20	0	0	20	0	0	11	0	11	5	3	0	0	8	1	0	0	0	1	40
Cars Exiting Leg	3					5					32					0					40
Heavy Exiting Leg	0					0					0					0					0
Total Exiting Leg	3					5					32					0					40

PDI File #: **207450 FF**
 Location: **N: Mill Bridge S: Mirak Mill East Driveway**
 Location: **E: Quinn Access Road W: Parking Lot**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Cars

	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	3	0	0	3	0	0	1	0	1	2	1	0	0	3	0	0	0	0	0	7
4:15 PM	0	1	0	0	1	0	0	3	0	3	0	1	0	0	1	0	0	0	0	0	5
4:30 PM	0	7	0	0	7	0	0	1	0	1	3	1	0	0	4	0	0	0	0	0	12
4:45 PM	0	5	0	0	5	0	0	4	0	4	1	0	0	0	1	0	0	0	0	0	10
Total	0	16	0	0	16	0	0	9	0	9	6	3	0	0	9	0	0	0	0	0	34
5:00 PM	0	7	0	0	7	0	0	3	0	3	1	1	0	0	2	1	0	0	0	1	13
5:15 PM	0	1	0	0	1	0	0	1	0	1	1	2	0	0	3	0	0	0	0	0	5
5:30 PM	0	3	0	0	3	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	5
5:45 PM	0	2	0	0	2	0	0	3	0	3	0	1	0	0	1	0	0	0	0	0	6
Total	0	13	0	0	13	0	0	7	0	7	2	4	1	0	7	2	0	0	0	2	29
Grand Total	0	29	0	0	29	0	0	16	0	16	8	7	1	0	16	2	0	0	0	2	63
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		50.0	43.8	6.3	0.0		100.0	0.0	0.0	0.0		
Total %	0.0	46.0	0.0	0.0	46.0	0.0	0.0	25.4	0.0	25.4	12.7	11.1	1.6	0.0	25.4	3.2	0.0	0.0	0.0	3.2	
Exiting Leg Total	7					8					47					1					63

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:15 PM	0	1	0	0	1	0	0	3	0	3	0	1	0	0	1	0	0	0	0	0	5
4:30 PM	0	7	0	0	7	0	0	1	0	1	3	1	0	0	4	0	0	0	0	0	12
4:45 PM	0	5	0	0	5	0	0	4	0	4	1	0	0	0	1	0	0	0	0	0	10
5:00 PM	0	7	0	0	7	0	0	3	0	3	1	1	0	0	2	1	0	0	0	1	13
Total Volume	0	20	0	0	20	0	0	11	0	11	5	3	0	0	8	1	0	0	0	1	40
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	100.0	0.0		62.5	37.5	0.0	0.0		100.0	0.0	0.0	0.0		
PHF	0.000	0.714	0.000	0.000	0.714	0.000	0.000	0.688	0.000	0.688	0.417	0.750	0.000	0.000	0.500	0.250	0.000	0.000	0.000	0.250	0.769
Entering Leg	0	20	0	0	20	0	0	11	0	11	5	3	0	0	8	1	0	0	0	1	40
Exiting Leg	3					5					32					0					40
Total	23					16					40					1					80

PDI File #: **207450 FF**
 Location: **N: Mill Bridge S: Mirak Mill East Driveway**
 Location: **E: Quinn Access Road W: Parking Lot**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**



	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	0					0					1					0					1
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total	0					0					0					0					0
Single-Unit Trucks	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Single-Unit	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Exiting Leg Total	0					0					1					0					1
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total	0					0					0					0					0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Single-Unit Trucks	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Single-Unit %	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit Trucks	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Buses	0					0					0					0					0
Single-Unit Trucks	0					0					1					0					1
Articulated Trucks	0					0					0					0					0
Total Exiting Leg	0					0					1					0					1

PDI File #: **207450 FF**
 Location: **N: Mill Bridge S: Mirak Mill East Driveway**
 Location: **E: Quinn Access Road W: Parking Lot**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Buses

	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	0					0					0					0					0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg	0					0					0					0					0
Total	0					0					0					0					0

PDI File #: **207450 FF**
 Location: **N: Mill Bridge S: Mirak Mill East Driveway**
 Location: **E: Quinn Access Road W: Parking Lot**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Single-Unit Trucks

	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	0					0					1					0					1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:45 PM	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot						
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Total Volume	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
% Approach Total	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0			
PHF	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	
Entering Leg	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Exiting Leg	0					0					1					0					1	
Total	1					0					1					0					2	

PDI File #: **207450 FF**
 Location: **N: Mill Bridge S: Mirak Mill East Driveway**
 Location: **E: Quinn Access Road W: Parking Lot**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Articulated Trucks

	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	0					0					0					0					0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Mill Bridge					Quinn Access Road					Mirak Mill East Driveway					Parking Lot					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg	0					0					0					0					0
Total	0					0					0					0					0

PDI File #: 207450 FF
 Location: N: Mill Bridge S: Mirak Mill East Driveway
 Location: E: Quinn Access Road W: Parking Lot
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM



Bicycles (on Roadway and Crosswalks)

	Mill Bridge							Quinn Access Road							Mirak Mill East Driveway							Parking Lot							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	100.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	0							0							1							0							1

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Mill Bridge							Quinn Access Road							Mirak Mill East Driveway							Parking Lot							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Approach Total	0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	
Entering Leg	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Exiting Leg	0							0							1							0							1
Total	1							0							1							0							2

PDI File #: **207450 FF**
 Location: **N: Mill Bridge S: Mirak Mill East Driveway**
 Location: **E: Quinn Access Road W: Parking Lot**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Pedestrians

	Mill Bridge							Quinn Access Road							Mirak Mill East Driveway							Parking Lot							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	2	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
Grand Total	0	0	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	3	3	6
Approach %	0	0	0	0	0	0	0	0	0	0	0	66.7	33.3		0	0	0	0	0	0	0	0	0	0	0	0	100		
Total %	0	0	0	0	0	0	0	0	0	0	0	33.3	16.7	50	0	0	0	0	0	0	0	0	0	0	0	0	50	50	
Exiting Leg Total	0							3							0							3							6

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Mill Bridge							Quinn Access Road							Mirak Mill East Driveway							Parking Lot							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	2	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.333
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4
Exiting Leg	0							2							0							2							4
Total	0							4							0							4							8

PDI File #: 207450 G
 Location: N: Forest Street S: Forest Street
 Location: E: Ryder Street W: Peirce Street SE: Driveway
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 7:00 AM
 End Time: 9:00 AM
 Class:



Cars and Heavy Vehicles (Combined)

	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total
	from North						from East						from Southeast						from South						from West						
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	
7:00 AM	3	61	0	0	0	64	0	1	5	0	0	6	0	0	0	1	0	1	0	4	14	0	0	18	1	0	0	2	0	3	92
7:15 AM	9	58	0	0	0	67	2	0	6	0	0	8	0	0	0	1	0	1	0	1	14	0	0	15	0	0	0	3	0	3	94
7:30 AM	16	81	0	1	0	98	1	0	3	0	0	4	0	0	0	0	0	0	0	5	41	1	0	47	0	0	0	4	0	4	153
7:45 AM	34	62	0	3	0	99	1	0	1	0	0	2	0	0	0	0	0	0	0	2	50	1	0	53	0	0	0	0	0	0	154
Total	62	262	0	4	0	328	4	1	15	0	0	20	0	0	0	2	0	2	0	12	119	2	0	133	1	0	0	9	0	10	493
8:00 AM	6	74	0	5	0	85	1	0	3	0	0	4	0	1	0	0	0	1	0	2	53	1	0	56	1	0	0	4	0	5	151
8:15 AM	7	52	0	1	0	60	0	0	1	0	0	1	0	0	0	0	0	0	0	0	27	0	0	27	0	0	0	2	0	2	90
8:30 AM	1	44	0	2	0	47	1	0	0	0	0	1	0	0	0	0	0	0	0	1	26	0	0	27	0	0	0	1	0	1	76
8:45 AM	2	36	0	1	0	39	0	0	2	0	0	2	0	0	0	0	0	0	0	1	24	1	0	26	1	0	0	1	0	2	69
Total	16	206	0	9	0	231	2	0	6	0	0	8	0	1	0	0	0	1	0	4	130	2	0	136	2	0	0	8	0	10	386
Grand Total	78	468	0	13	0	559	6	1	21	0	0	28	0	1	0	2	0	3	0	16	249	4	0	269	3	0	0	17	0	20	879
Approach %	14.0	83.7	0.0	2.3	0.0		21.4	3.6	75.0	0.0	0.0		0.0	33.3	0.0	66.7	0.0		0.0	5.9	92.6	1.5	0.0		15.0	0.0	0.0	85.0	0.0		
Total %	8.9	53.2	0.0	1.5	0.0	63.6	0.7	0.1	2.4	0.0	0.0	3.2	0.0	0.1	0.0	0.2	0.0	0.3	0.0	1.8	28.3	0.5	0.0	30.6	0.3	0.0	0.0	1.9	0.0	2.3	
Exiting Leg Total	273						29						0						494						83						879
Cars	76	459	0	13	0	548	5	1	12	0	0	18	0	1	0	2	0	3	0	12	246	2	0	260	3	0	0	17	0	20	849
% Cars	97.4	98.1	0.0	100.0	0.0	98.0	83.3	100.0	57.1	0.0	0.0	64.3	0.0	100.0	0.0	100.0	0.0	100.0	0.0	75.0	98.8	50.0	0.0	96.7	100.0	0.0	0.0	100.0	0.0	100.0	96.6
Exiting Leg Total	269						25						0						476						79						849
Heavy Vehicles	2	9	0	0	0	11	1	0	9	0	0	10	0	0	0	0	0	0	0	4	3	2	0	9	0	0	0	0	0	0	30
% Heavy Vehicles	2.6	1.9	0.0	0.0	0.0	2.0	16.7	0.0	42.9	0.0	0.0	35.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	1.2	50.0	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	3.4
Exiting Leg Total	4						4						0						18						4						30

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total
	from North						from East						from Southeast						from South						from West						
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	
7:15 AM	9	58	0	0	0	67	2	0	6	0	0	8	0	0	0	1	0	1	0	1	14	0	0	15	0	0	0	3	0	3	94
7:30 AM	16	81	0	1	0	98	1	0	3	0	0	4	0	0	0	0	0	0	0	5	41	1	0	47	0	0	0	4	0	4	153
7:45 AM	34	62	0	3	0	99	1	0	1	0	0	2	0	0	0	0	0	0	0	2	50	1	0	53	0	0	0	0	0	0	154
8:00 AM	6	74	0	5	0	85	1	0	3	0	0	4	0	1	0	0	0	1	0	2	53	1	0	56	1	0	0	4	0	5	151
Total Volume	65	275	0	9	0	349	5	0	13	0	0	18	0	1	0	1	0	2	0	10	158	3	0	171	1	0	0	11	0	12	552
% Approach Total	18.6	78.8	0.0	2.6	0.0		27.8	0.0	72.2	0.0	0.0		0.0	50.0	0.0	50.0	0.0		0.0	5.8	92.4	1.8	0.0		8.3	0.0	0.0	91.7	0.0		
PHF	0.478	0.849	0.000	0.450	0.000	0.881	0.625	0.000	0.542	0.000	0.000	0.563	0.000	0.250	0.000	0.250	0.000	0.500	0.000	0.500	0.745	0.750	0.000	0.763	0.250	0.000	0.000	0.688	0.000	0.600	0.896
Cars	64	272	0	9	0	345	4	0	8	0	0	12	0	1	0	1	0	2	0	7	156	2	0	165	1	0	0	11	0	12	536
Cars %	98.5	98.9	0.0	100.0	0.0	98.9	80.0	0.0	61.5	0.0	0.0	66.7	0.0	100.0	0.0	100.0	0.0	100.0	0.0	70.0	98.7	66.7	0.0	96.5	100.0	0.0	0.0	100.0	0.0	100.0	97.1
Heavy Vehicles	1	3	0	0	0	4	1	0	5	0	0	6	0	0	0	0	0	0	0	3	2	1	0	6	0	0	0	0	0	0	16
Heavy Vehicles %	1.5	1.1	0.0	0.0	0.0	1.1	20.0	0.0	38.5	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	1.3	33.3	0.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	2.9
Cars Enter Leg	64	272	0	9	0	345	4	0	8	0	0	12	0	1	0	1	0	2	0	7	156	2	0	165	1	0	0	11	0	12	536
Heavy Enter Leg	1	3	0	0	0	4	1	0	5	0	0	6	0	0	0	0	0	0	0	3	2	1	0	6	0	0	0	0	0	0	16
Total Entering Leg	65	275	0	9	0	349	5	0	13	0	0	18	0	1	0	1	0	2	0	10	158	3	0	171	1	0	0	11	0	12	552
Cars Exiting Leg						172						16						0						282						66	536
Heavy Exiting Leg						3						3						0						8						2	16
Total Exiting Leg						175						19						0						290						68	552

PDI File #: **207450 G**
 Location: **N: Forest Street S: Forest Street**
 Location: **E: Ryder Street W: Peirce Street SE: Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars

	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total
	from North						from East						from Southeast						from South						from West						
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	
7:00 AM	3	59	0	0	0	62	0	1	3	0	0	4	0	0	0	1	0	1	0	4	14	0	0	18	1	0	0	2	0	3	88
7:15 AM	9	58	0	0	0	67	1	0	2	0	0	3	0	0	0	1	0	1	0	1	13	0	0	14	0	0	0	3	0	3	88
7:30 AM	16	81	0	1	0	98	1	0	2	0	0	3	0	0	0	0	0	0	0	2	40	0	0	42	0	0	0	4	0	4	147
7:45 AM	34	62	0	3	0	99	1	0	1	0	0	2	0	0	0	0	0	0	0	2	50	1	0	53	0	0	0	0	0	0	154
Total	62	260	0	4	0	326	3	1	8	0	0	12	0	0	0	2	0	2	0	9	117	1	0	127	1	0	0	9	0	10	477
8:00 AM	5	71	0	5	0	81	1	0	3	0	0	4	0	1	0	0	0	1	0	2	53	1	0	56	1	0	0	4	0	5	147
8:15 AM	7	51	0	1	0	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	0	0	27	0	0	0	2	0	2	88
8:30 AM	1	42	0	2	0	45	1	0	0	0	0	1	0	0	0	0	0	0	0	0	25	0	0	25	0	0	0	1	0	1	72
8:45 AM	1	35	0	1	0	37	0	0	1	0	0	1	0	0	0	0	0	0	0	1	24	0	0	25	1	0	0	1	0	2	65
Total	14	199	0	9	0	222	2	0	4	0	0	6	0	1	0	0	0	1	0	3	129	1	0	133	2	0	0	8	0	10	372
Grand Total	76	459	0	13	0	548	5	1	12	0	0	18	0	1	0	2	0	3	0	12	246	2	0	260	3	0	0	17	0	20	849
Approach %	13.9	83.8	0.0	2.4	0.0		27.8	5.6	66.7	0.0	0.0		0.0	33.3	0.0	66.7	0.0		0.0	4.6	94.6	0.8	0.0		15.0	0.0	0.0	85.0	0.0		
Total %	9.0	54.1	0.0	1.5	0.0	64.5	0.6	0.1	1.4	0.0	0.0	2.1	0.0	0.1	0.0	0.2	0.0	0.4	0.0	1.4	29.0	0.2	0.0	30.6	0.4	0.0	0.0	2.0	0.0	2.4	
Exiting Leg Total						269						25						0						476						79	849

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total
	from North						from East						from Southeast						from South						from West						
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	
7:15 AM	9	58	0	0	0	67	1	0	2	0	0	3	0	0	0	1	0	1	0	1	13	0	0	14	0	0	0	3	0	3	88
7:30 AM	16	81	0	1	0	98	1	0	2	0	0	3	0	0	0	0	0	0	0	2	40	0	0	42	0	0	0	4	0	4	147
7:45 AM	34	62	0	3	0	99	1	0	1	0	0	2	0	0	0	0	0	0	0	2	50	1	0	53	0	0	0	0	0	0	154
8:00 AM	5	71	0	5	0	81	1	0	3	0	0	4	0	1	0	0	0	1	0	2	53	1	0	56	1	0	0	4	0	5	147
Total Volume	64	272	0	9	0	345	4	0	8	0	0	12	0	1	0	1	0	2	0	7	156	2	0	165	1	0	0	11	0	12	536
% Approach Total	18.6	78.8	0.0	2.6	0.0		33.3	0.0	66.7	0.0	0.0		0.0	50.0	0.0	50.0	0.0		0.0	4.2	94.5	1.2	0.0		8.3	0.0	0.0	91.7	0.0		
PHF	0.471	0.840	0.000	0.450	0.000	0.871	1.000	0.000	0.667	0.000	0.000	0.750	0.000	0.250	0.000	0.250	0.000	0.500	0.000	0.875	0.736	0.500	0.000	0.737	0.250	0.000	0.000	0.688	0.000	0.600	0.870
Entering Leg	64	272	0	9	0	345	4	0	8	0	0	12	0	1	0	1	0	2	0	7	156	2	0	165	1	0	0	11	0	12	536
Exiting Leg						172						16						0						282						66	536
Total						517						28						2						447						78	1072

PDI File #: 207450 G
 Location: N: Forest Street S: Forest Street
 Location: E: Ryder Street W: Peirce Street SE: Driveway
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 7:00 AM
 End Time: 9:00 AM
 Class:



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total
	from North						from East						from Southeast						from South						from West						
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	
7:00 AM	0	2	0	0	0	2	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
7:15 AM	0	0	0	0	0	0	1	0	4	0	0	5	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	6
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	3	1	1	0	5	0	0	0	0	0	0	6
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	0	2	1	0	7	0	0	8	0	0	0	0	0	0	0	3	2	1	0	6	0	0	0	0	0	0	16
8:00 AM	1	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:15 AM	0	1	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	4
8:45 AM	1	1	0	0	0	2	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	4
Total	2	7	0	0	0	9	0	0	2	0	0	2	0	0	0	0	0	0	0	1	1	1	0	3	0	0	0	0	0	0	14
Grand Total	2	9	0	0	0	11	1	0	9	0	0	10	0	0	0	0	0	0	0	4	3	2	0	9	0	0	0	0	0	0	30
Approach %	18.2	81.8	0.0	0.0	0.0		10.0	0.0	90.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	44.4	33.3	22.2	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	6.7	30.0	0.0	0.0	0.0	36.7	3.3	0.0	30.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0		13.3	10.0	6.7	30.0		0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	4						4						0						18						4						30
Buses	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Buses	50.0	0.0	0.0	0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	3.3
Exiting Leg Total	0						0						0						0						1						1
Single-Unit Trucks	1	9	0	0	0	10	1	0	8	0	0	9	0	0	0	0	0	0	0	3	3	2	0	8	0	0	0	0	0	0	27
% Single-Unit	50.0	100.0	0.0	0.0	0.0	90.9	100.0	0.0	88.9	0.0	0.0	90.0	0.0	0.0	0.0	0.0	0.0	0.0		75.0	100.0	100.0	0.0	88.9		0.0	0.0	0.0	0.0	0.0	90.0
Exiting Leg Total	4						3						0						17						3						27
Articulated Trucks	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0		25.0	0.0	0.0	0.0	11.1		0.0	0.0	0.0	0.0	0.0	6.7
Exiting Leg Total	0						1						0						1						0						2

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total
	from North						from East						from Southeast						from South						from West						
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	
7:00 AM	0	2	0	0	0	2	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
7:15 AM	0	0	0	0	0	0	1	0	4	0	0	5	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	6
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	3	1	1	0	5	0	0	0	0	0	0	6
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	0	0	2	1	0	7	0	0	8	0	0	0	0	0	0	0	3	2	1	0	6	0	0	0	0	0	0	16
% Approach Total	0.0	100.0	0.0	0.0	0.0		12.5	0.0	87.5	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	50.0	33.3	16.7	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.000	0.250	0.250	0.000	0.438	0.000	0.000	0.400	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.250	0.000	0.300	0.000	0.000	0.000	0.000	0.000	0.667	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Single-Unit Trucks	0	2	0	0	0	2	1	0	6	0	0	7	0	0	0	0	0	0	0	2	2	1	0	5	0	0	0	0	0	0	14
Single-Unit %	0.0	100.0	0.0	0.0	0.0	100.0	100.0	0.0	85.7	0.0	0.0	87.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7	100.0	100.0	0.0	83.3	0.0	0.0	0.0	0.0	0.0	0.0	87.5
Articulated Trucks	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	0.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	0.0	0.0	16.7	0.0	0.0	0.0	0.0	0.0	0.0	12.5
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit Trucks	0	2	0	0	0	2	1	0	6	0	0	7	0	0	0	0	0	0	0	2	2	1	0	5	0	0	0	0	0	0	14
Articulated Trucks	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2
Total Entering Leg	0	2	0	0	0	2	1	0	7	0	0	8	0	0	0	0	0	0	0	3	2	1	0	6	0	0	0	0	0	0	16
Buses	0						0						0						0						0						0
Single-Unit Trucks	3						2						0						8						1						14
Articulated Trucks	0						1						0						1						0						2
Total Exiting Leg	3						3						0						9						1						16

PDI File #: **207450 G**
 Location: **N: Forest Street S: Forest Street**
 Location: **E: Ryder Street W: Peirce Street SE: Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Buses

	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total
	from North						from East						from Southeast						from South						from West						
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Approach %	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	100.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	0						0						0						0						1						1

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total
	from North						from East						from Southeast						from South						from West						
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Total Volume	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
% Approach Total	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250		
Entering Leg	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Exiting Leg	0						0						0						0						1						1
Total	1						0						0						0						1						2

PDI File #: **207450 G**
 Location: **N: Forest Street S: Forest Street**
 Location: **E: Ryder Street W: Peirce Street SE: Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Single-Unit Trucks

	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total
	from North						from East						from Southeast						from South						from West						
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	
7:00 AM	0	2	0	0	0	2	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
7:15 AM	0	0	0	0	0	0	1	0	3	0	0	4	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	5
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2	1	1	0	4	0	0	0	0	0	0	5
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	0	0	2	1	0	6	0	0	7	0	0	0	0	0	0	0	2	2	1	0	5	0	0	0	0	0	0	14
8:00 AM	1	3	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:15 AM	0	1	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	4
8:45 AM	0	1	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	3
Total	1	7	0	0	0	8	0	0	2	0	0	2	0	0	0	0	0	0	0	1	1	1	0	3	0	0	0	0	0	0	13
Grand Total	1	9	0	0	0	10	1	0	8	0	0	9	0	0	0	0	0	0	0	3	3	2	0	8	0	0	0	0	0	0	27
Approach %	10.0	90.0	0.0	0.0	0.0		11.1	0.0	88.9	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	37.5	37.5	25.0	0.0		0.0	0.0	0.0	0.0	0.0		
Total %	3.7	33.3	0.0	0.0	0.0	37.0	3.7	0.0	29.6	0.0	0.0	33.3	0.0	0.0	0.0	0.0	0.0	0.0		0.0	11.1	11.1	7.4	0.0	29.6	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	4						3						0						17						3						27

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total
	from North						from East						from Southeast						from South						from West						
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	
7:00 AM	0	2	0	0	0	2	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
7:15 AM	0	0	0	0	0	0	1	0	3	0	0	4	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	5
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2	1	1	0	4	0	0	0	0	0	0	5
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	0	0	2	1	0	6	0	0	7	0	0	0	0	0	0	0	2	2	1	0	5	0	0	0	0	0	0	14
% Approach Total	0.0	100.0	0.0	0.0	0.0		14.3	0.0	85.7	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	40.0	40.0	20.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.000	0.250	0.250	0.000	0.500	0.000	0.000	0.438	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.250	0.000	0.313	0.000	0.000	0.000	0.000	0.000	0.000	0.700
Entering Leg	0	2	0	0	0	2	1	0	6	0	0	7	0	0	0	0	0	0	0	2	2	1	0	5	0	0	0	0	0	0	14
Exiting Leg	3						2						0						8						1						14
Total	5						9						0						13						1						28

PDI File #: **207450 G**
 Location: **N: Forest Street S: Forest Street**
 Location: **E: Ryder Street W: Peirce Street SE: Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Articulated Trucks

	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total	
	from North						from East						from Southeast						from South						from West							
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
Approach %	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0			
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0		
Exiting Leg Total	0						1						0						1						0						2	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street							
	from North						from East						from Southeast						from South						from West							
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total		Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	2
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0			
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.500	
Entering Leg	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	2	
Exiting Leg	0						1						0						1						0						2	
Total	0						2						0						2						0						4	

PDI File #: **207450 G**
 Location: **N: Forest Street S: Forest Street**
 Location: **E: Ryder Street W: Peirce Street SE: Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Bicycles (on Roadway and Crosswalks)

	Forest Street								Ryder Street								Driveway								Forest Street								Peirce Street								Total
	from North								from East								from Southeast								from South								from West								
	Right	Thru	Bear Left	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-SB	CW-NB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-SWB	CW-NWB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Bear Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	5	
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	0.0	0.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	0.0	0.0	0.0		
Exiting Leg Total	0								3								2								0								0								5

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Forest Street								Ryder Street								Driveway								Forest Street								Peirce Street								Total	
	from North								from East								from Southeast								from South								from West									
	Right	Thru	Bear Left	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-SB	CW-NB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-SWB	CW-NWB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Bear Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1		
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1		
Total Volume	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	0	0	0	0	0	4
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	100.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0				
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500		
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	4		
Exiting Leg								0								2																								4		
Total	0								4								2								2								0								8	

PDI File #: **207450 G**
 Location: **N: Forest Street S: Forest Street**
 Location: **E: Ryder Street W: Peirce Street SE: Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Pedestrians

	Forest Street								Ryder Street								Driveway								Forest Street								Peirce Street								Total
	from North								from East								from Southeast								from South								from West								
	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-WB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-SB	CW-NB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-SWB	CW-NEB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-WB	CW-SB	Total	Right	Bear Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	3
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	1	25	0	0	0	0	0	3	0	3	0	0	0	0	0	0	7	7	35
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10	0	0	0	0	0	0	0	0	0	0	1	1	1	1	11	11	60
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	2	38	0	0	0	0	0	3	0	3	0	0	0	0	0	10	10	51	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	6
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	6	1	7	0	0	0	0	0	0	0	0	0	0	0	1	1	9	9	9	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	42	3	45	0	0	0	0	0	3	0	3	0	0	0	0	11	11	60	60		
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	93.3	6.67	0	0	0	0	0	100	0	0	0	0	0	0	0	100	0	0	0	0	
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	1.67	1.67	0	0	0	0	0	70	5	75	0	0	0	0	0	5	0	5	0	0	18.3	18.3	60	60				
Exiting Leg Total	0								1								45								3								11								60

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Forest Street								Ryder Street								Driveway								Forest Street								Peirce Street								Total
	from North								from East								from Southeast								from South								from West								
	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-WB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-SB	CW-NB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-SWB	CW-NEB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Bear Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	3	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	1	25	0	0	0	0	0	3	0	3	0	0	0	0	0	7	7	35	
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	10	0	0	0	0	0	0	0	0	0	0	1	1	11				
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	2	38	0	0	0	0	0	3	0	3	0	0	0	0	10	10	51		
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	94.7	5.3		0.0	0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0			
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.375	0.500	0.380	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.357	0.357	0.364	
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	2	38	0	0	0	0	0	3	0	3	0	0	0	0	10	10	51		
Exiting Leg	0								0								38								3								10								51
Total	0								0								76								6								20								102

PDI File #: 207450 GG
 Location: N: Forest Street S: Forest Street
 Location: E: Ryder Street W: Peirce Street SE: Driveway
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM
 Class:



Cars and Heavy Vehicles (Combined)

	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total
	from North						from East						from Southeast						from South						from West						
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	
4:00 PM	0	30	0	1	0	31	1	0	3	0	0	4	0	0	0	0	0	0	0	2	43	0	0	45	1	0	0	1	0	2	82
4:15 PM	0	23	1	2	0	26	3	0	1	0	0	4	0	0	0	0	0	0	0	1	62	1	0	64	0	0	0	4	0	4	98
4:30 PM	0	31	0	0	0	31	3	0	2	0	0	5	0	2	0	1	0	3	0	3	47	1	0	51	0	0	0	1	0	1	91
4:45 PM	1	26	1	1	0	29	4	0	3	0	0	7	0	0	0	1	0	1	0	3	36	0	0	39	0	0	0	2	0	2	78
Total	1	110	2	4	0	117	11	0	9	0	0	20	0	2	0	2	0	4	0	9	188	2	0	199	1	0	0	8	0	9	349
5:00 PM	1	25	0	1	0	27	3	0	2	0	0	5	0	0	0	0	0	0	2	0	73	1	0	76	0	0	1	2	0	3	111
5:15 PM	1	16	0	2	0	19	1	0	1	0	0	2	0	0	0	1	0	1	0	0	72	1	0	73	0	0	0	1	0	1	96
5:30 PM	1	21	1	2	0	25	1	1	3	0	0	5	0	0	0	0	0	0	0	3	67	0	0	70	1	0	0	2	0	3	103
5:45 PM	2	28	0	0	0	30	0	0	3	0	0	3	0	0	0	0	0	0	0	1	61	2	0	64	1	0	0	2	0	3	100
Total	5	90	1	5	0	101	5	1	9	0	0	15	0	0	0	1	0	1	2	4	273	4	0	283	2	0	1	7	0	10	410
Grand Total	6	200	3	9	0	218	16	1	18	0	0	35	0	2	0	3	0	5	2	13	461	6	0	482	3	0	1	15	0	19	759
Approach %	2.8	91.7	1.4	4.1	0.0		45.7	2.9	51.4	0.0	0.0		0.0	40.0	0.0	60.0	0.0		0.4	2.7	95.6	1.2	0.0		15.8	0.0	5.3	78.9	0.0		
Total %	0.8	26.4	0.4	1.2	0.0	28.7	2.1	0.1	2.4	0.0	0.0	4.6	0.0	0.3	0.0	0.4	0.0	0.7	0.3	1.7	60.7	0.8	0.0	63.5	0.4	0.0	0.1	2.0	0.0	2.5	
Exiting Leg Total	494						23						5						224						13						759
Cars	6	200	3	8	0	217	16	1	18	0	0	35	0	2	0	3	0	5	2	9	458	6	0	475	3	0	1	15	0	19	751
% Cars	100.0	100.0	100.0	88.9	0.0	99.5	100.0	100.0	100.0	0.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0	100.0	100.0	69.2	99.3	100.0	0.0	98.5	100.0	0.0	100.0	100.0	0.0	100.0	98.9
Exiting Leg Total	491						18						5						224						13						751
Heavy Vehicles	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	3	0	0	7	0	0	0	0	0	0	8
% Heavy Vehicles	0.0	0.0	0.0	11.1	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.8	0.7	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0	1.1
Exiting Leg Total	3						5						0						0						0						8

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total
	from North						from East						from Southeast						from South						from West						
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	
5:00 PM	1	25	0	1	0	27	3	0	2	0	0	5	0	0	0	0	0	0	2	0	73	1	0	76	0	0	1	2	0	3	111
5:15 PM	1	16	0	2	0	19	1	0	1	0	0	2	0	0	0	1	0	1	0	0	72	1	0	73	0	0	0	1	0	1	96
5:30 PM	1	21	1	2	0	25	1	1	3	0	0	5	0	0	0	0	0	0	0	3	67	0	0	70	1	0	0	2	0	3	103
5:45 PM	2	28	0	0	0	30	0	0	3	0	0	3	0	0	0	0	0	0	0	1	61	2	0	64	1	0	0	2	0	3	100
Total Volume	5	90	1	5	0	101	5	1	9	0	0	15	0	0	0	1	0	1	2	4	273	4	0	283	2	0	1	7	0	10	410
% Approach Total	5.0	89.1	1.0	5.0	0.0		33.3	6.7	60.0	0.0	0.0		0.0	0.0	0.0	100.0	0.0		0.7	1.4	96.5	1.4	0.0		20.0	0.0	10.0	70.0	0.0		
PHF	0.625	0.804	0.250	0.625	0.000	0.842	0.417	0.250	0.750	0.000	0.000	0.750	0.000	0.000	0.000	0.250	0.000	0.250	0.250	0.333	0.935	0.500	0.000	0.931	0.500	0.000	0.250	0.875	0.000	0.833	0.923
Cars	5	90	1	5	0	101	5	1	9	0	0	15	0	0	0	1	0	1	2	3	271	4	0	280	2	0	1	7	0	10	407
Cars %	100.0	100.0	100.0	100.0	0.0	100.0	100.0	100.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	100.0	0.0	100.0	100.0	75.0	99.3	100.0	0.0	98.9	100.0	0.0	100.0	100.0	0.0	100.0	99.3
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	3
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.7	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.7
Cars Enter Leg	5	90	1	5	0	101	5	1	9	0	0	15	0	0	0	1	0	1	2	3	271	4	0	280	2	0	1	7	0	10	407
Heavy Enter Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	3
Total Entering Leg	5	90	1	5	0	101	5	1	9	0	0	15	0	0	0	1	0	1	2	4	273	4	0	283	2	0	1	7	0	10	410
Cars Exiting Leg	283						9						3						102						10						407
Heavy Exiting Leg	2						1						0						0						0						3
Total Exiting Leg	285						10						3						102						10						410

PDI File #: **207450 GG**
 Location: **N: Forest Street S: Forest Street**
 Location: **E: Ryder Street W: Peirce Street SE: Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Cars

	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total
	from North						from East						from Southeast						from South						from West						
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	
4:00 PM	0	30	0	0	0	30	1	0	3	0	0	4	0	0	0	0	0	0	0	1	42	0	0	43	1	0	0	1	0	2	79
4:15 PM	0	23	1	2	0	26	3	0	1	0	0	4	0	0	0	0	0	0	0	0	62	1	0	63	0	0	0	4	0	4	97
4:30 PM	0	31	0	0	0	31	3	0	2	0	0	5	0	2	0	1	0	3	0	3	47	1	0	51	0	0	0	1	0	1	91
4:45 PM	1	26	1	1	0	29	4	0	3	0	0	7	0	0	0	1	0	1	0	2	36	0	0	38	0	0	0	2	0	2	77
Total	1	110	2	3	0	116	11	0	9	0	0	20	0	2	0	2	0	4	0	6	187	2	0	195	1	0	0	8	0	9	344
5:00 PM	1	25	0	1	0	27	3	0	2	0	0	5	0	0	0	0	0	0	2	0	71	1	0	74	0	0	1	2	0	3	109
5:15 PM	1	16	0	2	0	19	1	0	1	0	0	2	0	0	0	1	0	1	0	0	72	1	0	73	0	0	0	1	0	1	96
5:30 PM	1	21	1	2	0	25	1	1	3	0	0	5	0	0	0	0	0	0	0	2	67	0	0	69	1	0	0	2	0	3	102
5:45 PM	2	28	0	0	0	30	0	0	3	0	0	3	0	0	0	0	0	0	0	1	61	2	0	64	1	0	0	2	0	3	100
Total	5	90	1	5	0	101	5	1	9	0	0	15	0	0	0	1	0	1	2	3	271	4	0	280	2	0	1	7	0	10	407
Grand Total	6	200	3	8	0	217	16	1	18	0	0	35	0	2	0	3	0	5	2	9	458	6	0	475	3	0	1	15	0	19	751
Approach %	2.8	92.2	1.4	3.7	0.0		45.7	2.9	51.4	0.0	0.0		0.0	40.0	0.0	60.0	0.0		0.4	1.9	96.4	1.3	0.0		15.8	0.0	5.3	78.9	0.0		
Total %	0.8	26.6	0.4	1.1	0.0	28.9	2.1	0.1	2.4	0.0	0.0	4.7	0.0	0.3	0.0	0.4	0.0	0.7	0.3	1.2	61.0	0.8	0.0	63.2	0.4	0.0	0.1	2.0	0.0	2.5	
Exiting Leg Total						491						18						5						224						13	751

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total
	from North						from East						from Southeast						from South						from West						
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	
5:00 PM	1	25	0	1	0	27	3	0	2	0	0	5	0	0	0	0	0	0	2	0	71	1	0	74	0	0	1	2	0	3	109
5:15 PM	1	16	0	2	0	19	1	0	1	0	0	2	0	0	0	1	0	1	0	0	72	1	0	73	0	0	0	1	0	1	96
5:30 PM	1	21	1	2	0	25	1	1	3	0	0	5	0	0	0	0	0	0	0	2	67	0	0	69	1	0	0	2	0	3	102
5:45 PM	2	28	0	0	0	30	0	0	3	0	0	3	0	0	0	0	0	0	0	1	61	2	0	64	1	0	0	2	0	3	100
Total Volume	5	90	1	5	0	101	5	1	9	0	0	15	0	0	0	1	0	1	2	3	271	4	0	280	2	0	1	7	0	10	407
% Approach Total	5.0	89.1	1.0	5.0	0.0		33.3	6.7	60.0	0.0	0.0		0.0	0.0	0.0	100.0	0.0		0.7	1.1	96.8	1.4	0.0		20.0	0.0	10.0	70.0	0.0		
PHF	0.625	0.804	0.250	0.625	0.000	0.842	0.417	0.250	0.750	0.000	0.000	0.750	0.000	0.000	0.000	0.250	0.000	0.250	0.250	0.375	0.941	0.500	0.000	0.946	0.500	0.000	0.250	0.875	0.000	0.833	0.933
Entering Leg	5	90	1	5	0	101	5	1	9	0	0	15	0	0	0	1	0	1	2	3	271	4	0	280	2	0	1	7	0	10	407
Exiting Leg						283						9						3						102						10	407
Total						384						24						4						382						20	814

PDI File #: 207450 GG
Location: N: Forest Street S: Forest Street
Location: E: Ryder Street W: Peirce Street SE: Driveway
City, State: Arlington, MA
Client: Nitsch Eng/B.Zimolka
Site Code: TBD
Count Date: Tuesday, February 4, 2020
Start Time: 4:00 PM
End Time: 6:00 PM
Class:



Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)

	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total	
	from North						from East						from Southeast						from South						from West							
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total		
4:00 PM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
Total	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	3
Grand Total	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	3	0	0	7	0	0	0	0	0	0	8
Approach %	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	57.1	42.9	0.0	0.0		0.0	0.0	0.0	0.0	0.0			
Total %	0.0	0.0	0.0	12.5	0.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	37.5	0.0	0.0	87.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	3						5						0						0						0						8	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total	0						0						0						0						0						0	
Single-Unit Trucks	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	3	0	0	7	0	0	0	0	0	0	8
% Single-Unit	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Exiting Leg Total	3						5						0						0						0						8	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total	0						0						0						0						0						0	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total	
	from North						from East						from Southeast						from South						from West							
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total		
4:00 PM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	
Total Volume	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	5	
% Approach Total	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	75.0	25.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0			
PHF	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.250	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.417	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Single-Unit Trucks	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	5	
Single-Unit %	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Single-Unit Trucks	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	5	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Entering Leg	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	5	
Buses	0						0						0						0						0						0	
Single-Unit Trucks	1						4						0						0						0						5	
Articulated Trucks	0						0						0						0						0						0	
Total Exiting Leg	1						4						0						0						0						5	

PDI File #: **207450 GG**
 Location: **N: Forest Street S: Forest Street**
 Location: **E: Ryder Street W: Peirce Street SE: Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Buses

	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total
	from North						from East						from Southeast						from South						from West						
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total	0						0						0						0						0						

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total
	from North						from East						from Southeast						from South						from West						
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg	0						0						0						0						0						0
Total	0						0						0						0						0						0

PDI File #: **207450 GG**
 Location: **N: Forest Street S: Forest Street**
 Location: **E: Ryder Street W: Peirce Street SE: Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Single-Unit Trucks

	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total	
	from North						from East						from Southeast						from South						from West							
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total		
4:00 PM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	
Total	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	5	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	3	0	0	0	0	0	0	3	
Grand Total	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	3	0	0	7	0	0	0	0	0	0	8	
Approach %	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	57.1	42.9	0.0	0.0		0.0	0.0	0.0	0.0	0.0			
Total %	0.0	0.0	0.0	12.5	0.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	37.5	0.0	0.0	87.5	0.0	0.0	0.0	0.0	0.0	0.0		
Exiting Leg Total	3						5						0						0						0						8	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total	
	from North						from East						from Southeast						from South						from West							
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total		
4:00 PM	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	3
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	
Total Volume	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	5	
% Approach Total	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	75.0	25.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0			
PHF	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.250	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.417	
Entering Leg	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	4	0	0	0	0	0	0	5	
Exiting Leg	1						4						0						0						0						5	
Total	2						4						0						4						0						10	

PDI File #: **207450 GG**
 Location: **N: Forest Street S: Forest Street**
 Location: **E: Ryder Street W: Peirce Street SE: Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Articulated Trucks

	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total
	from North						from East						from Southeast						from South						from West						
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Exiting Leg Total	0						0						0						0						0						

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Forest Street						Ryder Street						Driveway						Forest Street						Peirce Street						Total
	from North						from East						from Southeast						from South						from West						
	Right	Thru	Bear Left	Left	U-Turn	Total	Right	Thru	Left	Hard Left	U-Turn	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Total	Hard Right	Right	Thru	Left	U-Turn	Total	Right	Bear Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Exiting Leg	0						0						0						0						0						0
Total	0						0						0						0						0						0

PDI File #: **207450 GG**
 Location: **N: Forest Street S: Forest Street**
 Location: **E: Ryder Street W: Peirce Street SE: Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Bicycles (on Roadway and Crosswalks)

	Forest Street								Ryder Street								Driveway								Forest Street								Peirce Street								Total
	from North								from East								from Southeast								from South								from West								
	Right	Thru	Bear Left	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-SB	CW-NB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-SWB	CW-NWB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Bear Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3
Grand Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Approach %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	25.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	0.0	0.0	25.0	0.0	0.0	
Exiting Leg Total	0								2								0								1								1								4

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Forest Street								Ryder Street								Driveway								Forest Street								Peirce Street								Total	
	from North								from East								from Southeast								from South								from West									
	Right	Thru	Bear Left	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-SB	CW-NB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-SWB	CW-NWB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Bear Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.375
Entering Leg	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
Exiting Leg	0								1								0								1								1								3	
Total	0								3								0								2								1								6	

PDI File #: **207450 GG**
 Location: **N: Forest Street S: Forest Street**
 Location: **E: Ryder Street W: Peirce Street SE: Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Pedestrians

	Forest Street								Ryder Street								Driveway								Forest Street								Peirce Street								Total	
	from North								from East								from Southeast								from South								from West									
	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-WB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-SB	CW-NB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-SWB	CW-NEB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-WB	CW-SB	Total	Right	Bear Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	4
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	4	0	4	5		
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	3	3	6	0	0	0	0	0	1	0	1	0	0	0	0	5	0	5	13	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	6	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4		
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	2	4	6	0	0	0	0	0	0	1	1	0	0	0	0	0	2	2	11	
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	3	0	0	0	0	0	0	5	7	12	0	0	0	0	0	1	1	2	0	0	0	0	5	2	7	24	
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	33.3	66.7			0	0	0	0	0	0	41.7	58.3		0	0	0	0	0	50	50	0	0	0	0	0	71.4	28.6			
Total %	0	0	0	0	0	0	0	0	0	0	0	0	4.17	8.33	12.5	50	0	0	0	0	0	20.8	29.2	50		0	0	0	0	0	4.17	4.17	8.33	0	0	0	0	20.8	8.33	29.2		
Exiting Leg Total	0								3								12								2								7								24	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Forest Street								Ryder Street								Driveway								Forest Street								Peirce Street								Total
	from North								from East								from Southeast								from South								from West								
	Right	Thru	Bear Left	Left	U-Turn	CW-SB	CW-WB	Total	Right	Thru	Left	Hard Left	U-Turn	CW-SB	CW-NB	Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	CW-SWB	CW-NEB	Total	Hard Right	Right	Thru	Left	U-Turn	CW-WB	CW-SB	Total	Right	Bear Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	5
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	3	3	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	6	
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	2	6	8	0	0	0	0	0	0	1	1	0	0	0	0	4	1	5	15	
% Approach Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	0.0	0.0	25.0	75.0		0.0	0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	0.0	80.0	20.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.500	0.667	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.250	0.250	0.313	0.625	
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	2	6	8	0	0	0	0	0	0	1	1	0	0	0	0	4	1	5	15	
Exiting Leg	0								1								8								1								5								15
Total	0								2								16								2								10								30

PDI File #: **207450 H**
 Location: **N: Ryder Street S: Ryder Street**
 Location: **E: Mirak Mill Park South Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars and Heavy Vehicles (Combined)

	Ryder Street				Mirak Mill Park South Driveway				Ryder Street				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:00 AM	1	1	0	2	0	5	0	5	1	3	0	4	11
7:15 AM	6	0	0	6	0	2	0	2	0	1	0	1	9
7:30 AM	4	0	0	4	0	0	0	0	4	3	0	7	11
7:45 AM	1	1	0	2	1	1	0	2	3	2	0	5	9
Total	12	2	0	14	1	8	0	9	8	9	0	17	40
8:00 AM	3	0	0	3	0	1	0	1	5	2	0	7	11
8:15 AM	1	3	0	4	0	0	0	0	1	0	0	1	5
8:30 AM	1	0	0	1	0	1	0	1	3	0	0	3	5
8:45 AM	0	0	0	0	0	2	0	2	0	2	0	2	4
Total	5	3	0	8	0	4	0	4	9	4	0	13	25
Grand Total	17	5	0	22	1	12	0	13	17	13	0	30	65
Approach %	77.3	22.7	0.0		7.7	92.3	0.0		56.7	43.3	0.0		
Total %	26.2	7.7	0.0	33.8	1.5	18.5	0.0	20.0	26.2	20.0	0.0	46.2	
Exiting Leg Total	14				22				29				65
Cars	11	5	0	16	1	9	0	10	15	12	0	27	53
% Cars	64.7	100.0	0.0	72.7	100.0	75.0	0.0	76.9	88.2	92.3	0.0	90.0	81.5
Exiting Leg Total	13				20				20				53
Heavy Vehicles	6	0	0	6	0	3	0	3	2	1	0	3	12
% Heavy Vehicles	35.3	0.0	0.0	27.3	0.0	25.0	0.0	23.1	11.8	7.7	0.0	10.0	18.5
Exiting Leg Total	1				2				9				12

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Ryder Street					Mirak Mill Park South Driveway					Ryder Street					Total	
	from North					from East					from South						
	Thru	Left	U-Turn	Total		Right	Left	U-Turn	Total		Right	Thru	U-Turn	Total			
7:00 AM	1	1	0	2		0	5	0	5		1	3	0	4		11	
7:15 AM	6	0	0	6		0	2	0	2		0	1	0	1		9	
7:30 AM	4	0	0	4		0	0	0	0		4	3	0	7		11	
7:45 AM	1	1	0	2		1	1	0	2		3	2	0	5		9	
Total Volume	12	2	0	14		1	8	0	9		8	9	0	17		40	
% Approach Total	85.7	14.3	0.0			11.1	88.9	0.0			47.1	52.9	0.0				
PHF	0.500	0.500	0.000	0.583		0.250	0.400	0.000	0.450		0.500	0.750	0.000	0.607		0.909	
Cars	7	2	0	9		1	6	0	7		7	8	0	15		31	
Cars %	58.3	100.0	0.0	64.3		100.0	75.0	0.0	77.8		87.5	88.9	0.0	88.2		77.5	
Heavy Vehicles	5	0	0	5		0	2	0	2		1	1	0	2		9	
Heavy Vehicles %	41.7	0.0	0.0	35.7		0.0	25.0	0.0	22.2		12.5	11.1	0.0	11.8		22.5	
Cars Enter Leg	7	2	0	9		1	6	0	7		7	8	0	15		31	
Heavy Enter Leg	5	0	0	5		0	2	0	2		1	1	0	2		9	
Total Entering Leg	12	2	0	14		1	8	0	9		8	9	0	17		40	
Cars Exiting Leg						9										13	31
Heavy Exiting Leg						1										7	9
Total Exiting Leg	10					10					20					40	

PDI File #: **207450 H**
 Location: **N: Ryder Street S: Ryder Street**
 Location: **E: Mirak Mill Park South Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars

	Ryder Street				Mirak Mill Park South Driveway				Ryder Street				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:00 AM	0	1	0	1	0	4	0	4	1	3	0	4	9
7:15 AM	3	0	0	3	0	1	0	1	0	1	0	1	5
7:30 AM	3	0	0	3	0	0	0	0	3	2	0	5	8
7:45 AM	1	1	0	2	1	1	0	2	3	2	0	5	9
Total	7	2	0	9	1	6	0	7	7	8	0	15	31
8:00 AM	3	0	0	3	0	1	0	1	5	2	0	7	11
8:15 AM	0	3	0	3	0	0	0	0	1	0	0	1	4
8:30 AM	1	0	0	1	0	1	0	1	2	0	0	2	4
8:45 AM	0	0	0	0	0	1	0	1	0	2	0	2	3
Total	4	3	0	7	0	3	0	3	8	4	0	12	22
Grand Total	11	5	0	16	1	9	0	10	15	12	0	27	53
Approach %	68.8	31.3	0.0		10.0	90.0	0.0		55.6	44.4	0.0		
Total %	20.8	9.4	0.0	30.2	1.9	17.0	0.0	18.9	28.3	22.6	0.0	50.9	
Exiting Leg Total	13				20				20				53

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Ryder Street				Mirak Mill Park South Driveway				Ryder Street				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:15 AM	3	0	0	3	0	1	0	1	0	1	0	1	5
7:30 AM	3	0	0	3	0	0	0	0	3	2	0	5	8
7:45 AM	1	1	0	2	1	1	0	2	3	2	0	5	9
8:00 AM	3	0	0	3	0	1	0	1	5	2	0	7	11
Total Volume	10	1	0	11	1	3	0	4	11	7	0	18	33
% Approach Total	90.9	9.1	0.0		25.0	75.0	0.0		61.1	38.9	0.0		
PHF	0.833	0.250	0.000	0.917	0.250	0.750	0.000	0.500	0.550	0.875	0.000	0.643	0.750
Entering Leg	10	1	0	11	1	3	0	4	11	7	0	18	33
Exiting Leg				8				12				13	33
Total				19				16				31	66

PDI File #: **207450 H**
 Location: **N: Ryder Street S: Ryder Street**
 Location: **E: Mirak Mill Park South Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**



Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Ryder Street				Mirak Mill Park South Driveway				Ryder Street				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:00 AM	1	0	0	1	0	1	0	1	0	0	0	0	2
7:15 AM	3	0	0	3	0	1	0	1	0	0	0	0	4
7:30 AM	1	0	0	1	0	0	0	0	1	1	0	2	3
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	5	0	0	5	0	2	0	2	1	1	0	2	9
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	0	0	1	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
8:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	1	0	0	1	0	1	0	1	1	0	0	1	3
Grand Total	6	0	0	6	0	3	0	3	2	1	0	3	12
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		66.7	33.3	0.0		
Total %	50.0	0.0	0.0	50.0	0.0	25.0	0.0	25.0	16.7	8.3	0.0	25.0	
Exiting Leg Total	1				2				9				12
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total	0				0				0				0
Single-Unit Trucks	5	0	0	5	0	3	0	3	1	1	0	2	10
% Single-Unit	83.3	0.0	0.0	83.3	0.0	100.0	0.0	100.0	50.0	100.0	0.0	66.7	83.3
Exiting Leg Total	1				1				8				10
Articulated Trucks	1	0	0	1	0	0	0	0	1	0	0	1	2
% Articulated	16.7	0.0	0.0	16.7	0.0	0.0	0.0	0.0	50.0	0.0	0.0	33.3	16.7
Exiting Leg Total	0				1				1				2

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Ryder Street				Mirak Mill Park South Driveway				Ryder Street				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:00 AM	1	0	0	1	0	1	0	1	0	0	0	0	2
7:15 AM	3	0	0	3	0	1	0	1	0	0	0	0	4
7:30 AM	1	0	0	1	0	0	0	0	1	1	0	2	3
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	5	0	0	5	0	2	0	2	1	1	0	2	9
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		50.0	50.0	0.0		
PHF	0.417	0.000	0.000	0.417	0.000	0.500	0.000	0.500	0.250	0.250	0.000	0.250	0.563
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Single-Unit Trucks	4	0	0	4	0	2	0	2	0	1	0	1	7
Single-Unit %	80.0	0.0	0.0	80.0	0.0	100.0	0.0	100.0	0.0	100.0	0.0	50.0	77.8
Articulated Trucks	1	0	0	1	0	0	0	0	1	0	0	1	2
Articulated %	20.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	50.0	22.2
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit Trucks	4	0	0	4	0	2	0	2	0	1	0	1	7
Articulated Trucks	1	0	0	1	0	0	0	0	1	0	0	1	2
Total Entering Leg	5	0	0	5	0	2	0	2	1	1	0	2	9
Buses				0				0				0	0
Single-Unit Trucks				1				0				6	7
Articulated Trucks				0				1				1	2
Total Exiting Leg				1				1				7	9

PDI File #: **207450 H**
 Location: **N: Ryder Street S: Ryder Street**
 Location: **E: Mirak Mill Park South Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Buses

	Ryder Street					Mirak Mill Park South Driveway					Ryder Street					Total
	from North					from East					from South					
	Thru	Left	U-Turn	Total		Right	Left	U-Turn	Total		Right	Thru	U-Turn	Total		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0			0.0	0.0	0.0			0.0	0.0	0.0			
Total %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Exiting Leg Total	0					0					0					0

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Ryder Street				Mirak Mill Park South Driveway				Ryder Street				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg				0				0				0	0
Total				0				0				0	

PDI File #: **207450 H**
 Location: **N: Ryder Street S: Ryder Street**
 Location: **E: Mirak Mill Park South Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Single-Unit Trucks

	Ryder Street					Mirak Mill Park South Driveway					Ryder Street					Total
	from North					from East					from South					
	Thru	Left	U-Turn	Total		Right	Left	U-Turn	Total		Right	Thru	U-Turn	Total		
7:00 AM	1	0	0	1		0	1	0	1		0	0	0	0		2
7:15 AM	2	0	0	2		0	1	0	1		0	0	0	0		3
7:30 AM	1	0	0	1		0	0	0	0		0	1	0	1		2
7:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0
Total	4	0	0	4		0	2	0	2		0	1	0	1		7
8:00 AM	0	0	0	0		0	0	0	0		0	0	0	0		0
8:15 AM	1	0	0	1		0	0	0	0		0	0	0	0		1
8:30 AM	0	0	0	0		0	0	0	0		1	0	0	1		1
8:45 AM	0	0	0	0		0	1	0	1		0	0	0	0		1
Total	1	0	0	1		0	1	0	1		1	0	0	1		3
Grand Total	5	0	0	5		0	3	0	3		1	1	0	2		10
Approach %	100.0	0.0	0.0			0.0	100.0	0.0			50.0	50.0	0.0			
Total %	50.0	0.0	0.0	50.0		0.0	30.0	0.0	30.0		10.0	10.0	0.0	20.0		
Exiting Leg Total	1					1					8					10

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Ryder Street				Mirak Mill Park South Driveway				Ryder Street				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:00 AM	1	0	0	1	0	1	0	1	0	0	0	0	2
7:15 AM	2	0	0	2	0	1	0	1	0	0	0	0	3
7:30 AM	1	0	0	1	0	0	0	0	0	1	0	1	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	4	0	0	4	0	2	0	2	0	1	0	1	7
% Approach Total	100.0	0.0	0.0		0.0	100.0	0.0		0.0	100.0	0.0		
PHF	0.500	0.000	0.000	0.500	0.000	0.500	0.000	0.500	0.000	0.250	0.000	0.250	0.583
Entering Leg	4	0	0	4	0	2	0	2	0	1	0	1	7
Exiting Leg				1				0				6	7
Total				5				2				7	14

PDI File #: **207450 H**
 Location: **N: Ryder Street S: Ryder Street**
 Location: **E: Mirak Mill Park South Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Articulated Trucks

	Ryder Street					Mirak Mill Park South Driveway					Ryder Street					Total
	from North					from East					from South					
	Thru	Left	U-Turn	Total		Right	Left	U-Turn	Total		Right	Thru	U-Turn	Total		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	1	0	0	1		0	0	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0		0	0	0	0	0	1	0	0	1		1
7:45 AM	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1		0	0	0	0	0	1	0	0	1		2
8:00 AM	0	0	0	0		0	0	0	0	0	0	0	0	0		0
8:15 AM	0	0	0	0		0	0	0	0	0	0	0	0	0		0
8:30 AM	0	0	0	0		0	0	0	0	0	0	0	0	0		0
8:45 AM	0	0	0	0		0	0	0	0	0	0	0	0	0		0
Total	0	0	0	0		0	0	0	0	0	0	0	0	0		0
Grand Total	1	0	0	1		0	0	0	0	0	1	0	0	1		2
Approach %	100.0	0.0	0.0			0.0	0.0	0.0			100.0	0.0	0.0			
Total %	50.0	0.0	0.0	50.0		0.0	0.0	0.0	0.0		50.0	0.0	0.0	50.0		
Exiting Leg Total	0					1					1					2

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Ryder Street				Mirak Mill Park South Driveway				Ryder Street				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	1	0	0	1	0	0	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	0	1	0	0	0	0	1	0	0	1	2
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.500
Entering Leg	1	0	0	1	0	0	0	0	1	0	0	1	2
Exiting Leg				0				1				1	2
Total				1				1				2	4

PDI File #: **207450 H**
 Location: **N: Ryder Street S: Ryder Street**
 Location: **E: Mirak Mill Park South Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**



Class: **Bicycles (on Roadway and Crosswalks)**

	Ryder Street						Mirak Mill Park South Driveway						Ryder Street						Total	
	from North						from East						from South							
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
8:45 AM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	2
Total	0	1	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	0	3	4
Grand Total	3	1	0	0	0	4	0	0	0	0	0	0	0	0	3	0	0	0	3	7
Approach %	75.0	25.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0			
Total %	42.9	14.3	0.0	0.0	0.0	57.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.9	0.0	0.0	0.0	42.9		
Exiting Leg Total	3						1						3						7	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Ryder Street						Mirak Mill Park South Driveway						Ryder Street						Total	
	from North						from East						from South							
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total		
7:45 AM	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Total Volume	3	0	0	0	0	3	0	0	0	0	0	0	0	0	2	0	0	0	2	5
% Approach Total	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	
PHF	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.500	0.417
Entering Leg	3	0	0	0	0	3	0	0	0	0	0	0	0	0	2	0	0	0	2	5
Exiting Leg						2								0					3	5
Total						5													5	10

PDI File #: **207450 H**
 Location: **N: Ryder Street S: Ryder Street**
 Location: **E: Mirak Mill Park South Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Pedestrians

	Ryder Street						Mirak Mill Park South Driveway						Ryder Street						Total	
	from North						from East						from South							
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	21	1	22	0	0	0	0	0	0	22
7:45 AM	0	0	0	0	0	0	0	0	0	0	8	0	8	0	0	0	0	0	0	8
Total	0	0	0	0	0	0	0	0	0	0	30	2	32	0	0	0	0	0	0	32
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	0	3
Total	0	0	0	0	0	0	0	0	0	0	3	1	4	0	0	0	0	0	0	4
Grand Total	0	0	0	0	0	0	0	0	0	0	33	3	36	0	0	0	0	0	0	36
Approach %	0	0	0	0	0	0	0	0	0	0	91.667	8.3333		0	0	0	0	0		
Total %	0	0	0	0	0	0	0	0	0	0	91.667	8.3333	100	0	0	0	0	0	0	
Exiting Leg Total	0						36						0						36	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Ryder Street						Mirak Mill Park South Driveway						Ryder Street						Total
	from North						from East						from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
7:30 AM	0	0	0	0	0	0	0	0	0	21	1	22	0	0	0	0	0	0	22
7:45 AM	0	0	0	0	0	0	0	0	0	8	0	8	0	0	0	0	0	0	8
Total Volume	0	0	0	0	0	0	0	0	0	30	2	32	0	0	0	0	0	0	32
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	93.8	6.3		0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.357	0.500	0.364	0.000	0.000	0.000	0.000	0.000	0.000	0.364
Entering Leg	0	0	0	0	0	0	0	0	0	30	2	32	0	0	0	0	0	0	32
Exiting Leg	0						32						0						32
Total	0						64						0						64

PDI File #: **207450 HH**
 Location: **N: Ryder Street S: Ryder Street**
 Location: **E: Mirak Mill Park South Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Cars and Heavy Vehicles (Combined)

	Ryder Street				Mirak Mill Park South Driveway				Ryder Street				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
4:00 PM	2	0	0	2	2	3	0	5	1	1	0	2	9
4:15 PM	2	0	0	2	1	1	0	2	2	1	0	3	7
4:30 PM	1	1	0	2	1	3	0	4	0	3	0	3	9
4:45 PM	1	0	0	1	0	6	0	6	0	3	0	3	10
Total	6	1	0	7	4	13	0	17	3	8	0	11	35
5:00 PM	1	0	0	1	0	4	0	4	1	0	0	1	6
5:15 PM	0	0	0	0	0	2	0	2	1	1	0	2	4
5:30 PM	1	0	0	1	1	3	0	4	2	3	1	6	11
5:45 PM	3	0	0	3	0	0	0	0	0	1	1	2	5
Total	5	0	0	5	1	9	0	10	4	5	2	11	26
Grand Total	11	1	0	12	5	22	0	27	7	13	2	22	61
Approach %	91.7	8.3	0.0		18.5	81.5	0.0		31.8	59.1	9.1		
Total %	18.0	1.6	0.0	19.7	8.2	36.1	0.0	44.3	11.5	21.3	3.3	36.1	
Exiting Leg Total	18				8				35				61
Cars	11	1	0	12	5	22	0	27	5	11	2	18	57
% Cars	100.0	100.0	0.0	100.0	100.0	100.0	0.0	100.0	71.4	84.6	100.0	81.8	93.4
Exiting Leg Total	16				6				35				57
Heavy Vehicles	0	0	0	0	0	0	0	0	2	2	0	4	4
% Heavy Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.6	15.4	0.0	18.2	6.6
Exiting Leg Total	2				2				0				4

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Ryder Street				Mirak Mill Park South Driveway				Ryder Street				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
4:00 PM	2	0	0	2	2	3	0	5	1	1	0	2	9
4:15 PM	2	0	0	2	1	1	0	2	2	1	0	3	7
4:30 PM	1	1	0	2	1	3	0	4	0	3	0	3	9
4:45 PM	1	0	0	1	0	6	0	6	0	3	0	3	10
Total Volume	6	1	0	7	4	13	0	17	3	8	0	11	35
% Approach Total	85.7	14.3	0.0		23.5	76.5	0.0		27.3	72.7	0.0		
PHF	0.750	0.250	0.000	0.875	0.500	0.542	0.000	0.708	0.375	0.667	0.000	0.917	0.875
Cars	6	1	0	7	4	13	0	17	2	6	0	8	32
Cars %	100.0	100.0	0.0	100.0	100.0	100.0	0.0	100.0	66.7	75.0	0.0	72.7	91.4
Heavy Vehicles	0	0	0	0	0	0	0	0	1	2	0	3	3
Heavy Vehicles %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.3	25.0	0.0	27.3	8.6
Cars Enter Leg	6	1	0	7	4	13	0	17	2	6	0	8	32
Heavy Enter Leg	0	0	0	0	0	0	0	0	1	2	0	3	3
Total Entering Leg	6	1	0	7	4	13	0	17	3	8	0	11	35
Cars Exiting Leg				10				3				19	32
Heavy Exiting Leg				2				1				0	3
Total Exiting Leg				12				4				19	35

PDI File #: **207450 HH**
 Location: **N: Ryder Street S: Ryder Street**
 Location: **E: Mirak Mill Park South Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Cars

	Ryder Street					Mirak Mill Park South Driveway					Ryder Street					Total
	from North					from East					from South					
	Thru	Left	U-Turn	Total		Right	Left	U-Turn	Total		Right	Thru	U-Turn	Total		
4:00 PM	2	0	0	2		2	3	0	5		0	1	0	1		8
4:15 PM	2	0	0	2		1	1	0	2		2	0	0	2		6
4:30 PM	1	1	0	2		1	3	0	4		0	3	0	3		9
4:45 PM	1	0	0	1		0	6	0	6		0	2	0	2		9
Total	6	1	0	7		4	13	0	17		2	6	0	8		32
5:00 PM	1	0	0	1		0	4	0	4		1	0	0	1		6
5:15 PM	0	0	0	0		0	2	0	2		1	1	0	2		4
5:30 PM	1	0	0	1		1	3	0	4		1	3	1	5		10
5:45 PM	3	0	0	3		0	0	0	0		0	1	1	2		5
Total	5	0	0	5		1	9	0	10		3	5	2	10		25
Grand Total	11	1	0	12		5	22	0	27		5	11	2	18		57
Approach %	91.7	8.3	0.0			18.5	81.5	0.0			27.8	61.1	11.1			
Total %	19.3	1.8	0.0	21.1		8.8	38.6	0.0	47.4		8.8	19.3	3.5	31.6		
Exiting Leg Total	16					6					35					57

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Ryder Street				Mirak Mill Park South Driveway				Ryder Street				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
4:00 PM	2	0	0	2	2	3	0	5	0	1	0	1	8
4:15 PM	2	0	0	2	1	1	0	2	2	0	0	2	6
4:30 PM	1	1	0	2	1	3	0	4	0	3	0	3	9
4:45 PM	1	0	0	1	0	6	0	6	0	2	0	2	9
Total Volume	6	1	0	7	4	13	0	17	2	6	0	8	32
% Approach Total	85.7	14.3	0.0		23.5	76.5	0.0		25.0	75.0	0.0		
PHF	0.750	0.250	0.000	0.875	0.500	0.542	0.000	0.708	0.250	0.500	0.000	0.667	0.889
Entering Leg	6	1	0	7	4	13	0	17	2	6	0	8	32
Exiting Leg	10				3				19				32
Total	17				20				27				64

PDI File #: **207450 HH**
 Location: **N: Ryder Street S: Ryder Street**
 Location: **E: Mirak Mill Park South Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**



Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Ryder Street				Mirak Mill Park South Driveway				Ryder Street				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	0	0	1	2	0	3	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	1
Grand Total	0	0	0	0	0	0	0	0	2	2	0	4	4
Approach %	0.0	0.0	0.0		0.0	0.0	0.0		50.0	50.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	50.0	0.0	100.0	
Exiting Leg Total	2				2				0				4
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total	0				0				0				0
Single-Unit Trucks	0	0	0	0	0	0	0	0	2	2	0	4	4
% Single-Unit	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	100.0
Exiting Leg Total	2				2				0				4
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exiting Leg Total	0				0				0				0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Ryder Street				Mirak Mill Park South Driveway				Ryder Street				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	0	0	0	1	2	0	3	3
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		33.3	66.7	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.000	0.750	0.750
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Single-Unit Trucks	0	0	0	0	0	0	0	0	1	2	0	3	3
Single-Unit %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	100.0	0.0	100.0	100.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Buses	0	0	0	0	0	0	0	0	0	0	0	0	0
Single-Unit Trucks	0	0	0	0	0	0	0	0	1	2	0	3	3
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Entering Leg	0	0	0	0	0	0	0	0	1	2	0	3	3
Buses	0				0				0				0
Single-Unit Trucks	2				1				0				3
Articulated Trucks	0				0				0				0
Total Exiting Leg	2				1				0				3

PDI File #: **207450 HH**
 Location: **N: Ryder Street S: Ryder Street**
 Location: **E: Mirak Mill Park South Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Buses

	Ryder Street					Mirak Mill Park South Driveway					Ryder Street					Total
	from North					from East					from South					
	Thru	Left	U-Turn	Total		Right	Left	U-Turn	Total		Right	Thru	U-Turn	Total		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0			0.0	0.0	0.0			0.0	0.0	0.0			
Total %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Exiting Leg Total	0					0					0					0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Ryder Street				Mirak Mill Park South Driveway				Ryder Street				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg				0				0				0	0
Total				0				0				0	

PDI File #: **207450 HH**
 Location: **N: Ryder Street S: Ryder Street**
 Location: **E: Mirak Mill Park South Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Single-Unit Trucks

	Ryder Street					Mirak Mill Park South Driveway					Ryder Street					Total
	from North					from East					from South					
	Thru	Left	U-Turn	Total		Right	Left	U-Turn	Total		Right	Thru	U-Turn	Total		
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	
Total	0	0	0	0	0	0	0	0	0	0	1	2	0	3	3	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	
Grand Total	0	0	0	0	0	0	0	0	0	0	2	2	0	4	4	
Approach %	0.0	0.0	0.0			0.0	0.0	0.0			50.0	50.0	0.0			
Total %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		50.0	50.0	0.0	100.0		
Exiting Leg Total	2					2					0					4

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Ryder Street				Mirak Mill Park South Driveway				Ryder Street				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	0	0	0	1	2	0	3	3
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		33.3	66.7	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.500	0.000	0.750	0.750
Entering Leg	0	0	0	0	0	0	0	0	1	2	0	3	3
Exiting Leg				2				1				0	3
Total				2				1				3	6

PDI File #: **207450 HH**
 Location: **N: Ryder Street S: Ryder Street**
 Location: **E: Mirak Mill Park South Driveway**
 City, State: **Arlington, MA**
 Client: **Nitsch Eng/B.Zimolka**
 Site Code: **TBD**
 Count Date: **Tuesday, February 4, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Articulated Trucks

	Ryder Street					Mirak Mill Park South Driveway					Ryder Street					Total
	from North					from East					from South					
	Thru	Left	U-Turn	Total		Right	Left	U-Turn	Total		Right	Thru	U-Turn	Total		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0			0.0	0.0	0.0			0.0	0.0	0.0			
Total %	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		
Exiting Leg Total	0					0					0					0

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Ryder Street				Mirak Mill Park South Driveway				Ryder Street				Total
	from North				from East				from South				
	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% Approach Total	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Entering Leg	0	0	0	0	0	0	0	0	0	0	0	0	0
Exiting Leg				0				0				0	0
Total				0				0				0	0

PDI File #: 207450 HH
 Location: N: Ryder Street S: Ryder Street
 Location: E: Mirak Mill Park South Driveway
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD



Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM

Class: Bicycles (on Roadway and Crosswalks)

	Ryder Street						Mirak Mill Park South Driveway						Ryder Street						Total
	from North						from East						from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:00 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	1
Total	1	0	0	0	0	1	1	0	0	0	0	0	1	0	1	0	0	0	1
Grand Total	1	0	0	0	0	1	1	0	0	0	0	1	0	2	0	0	0	0	2
Approach %	100.0	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0	0.0		
Total %	25.0	0.0	0.0	0.0	0.0	25.0	25.0	0.0	0.0	0.0	0.0	25.0	0.0	50.0	0.0	0.0	0.0	50.0	
Exiting Leg Total	3						0						1						4

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Ryder Street						Mirak Mill Park South Driveway						Ryder Street						Total		
	from North						from East						from South								
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total			
5:00 PM	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Total Volume	1	0	0	0	0	1	1	0	0	0	0	1	0	1	0	0	0	0	1	3	
% Approach Total	100.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0			
PHF	0.250	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.250		0.375	
Entering Leg	1	0	0	0	0	1	1	0	0	0	0	1	0	1	0	0	0	1	3		
Exiting Leg						2						0						1	3		
Total						3						1						2	6		

PDI File #: 207450 HH
 Location: N: Ryder Street S: Ryder Street
 Location: E: Mirak Mill Park South Driveway
 City, State: Arlington, MA
 Client: Nitsch Eng/B.Zimolka
 Site Code: TBD
 Count Date: Tuesday, February 4, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM
 Class:



Pedestrians

	Ryder Street						Mirak Mill Park South Driveway						Ryder Street						Total	
	from North						from East						from South							
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total		
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	3	2	5	0	0	0	0	1	1	6
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	2
Grand Total	0	0	0	0	0	0	0	0	0	0	4	3	7	0	0	0	0	1	1	8
Approach %	0	0	0	0	0	0	0	0	0	0	57.143	42.857		0	0	0	0	100		
Total %	0	0	0	0	0	0	0	0	0	0	50	37.5	87.5	0	0	0	0	12.5	12.5	
Exiting Leg Total	0						7						1						8	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Ryder Street						Mirak Mill Park South Driveway						Ryder Street						Total
	from North						from East						from South						
	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	U-Turn	CW-WB	CW-EB	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	3	2	5	0	0	0	0	1	1	6
% Approach Total	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	60.0	40.0		0.0	0.0	0.0	0.0	100.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.750	0.500	0.625	0.000	0.000	0.000	0.000	0.250	0.250	0.750
Entering Leg	0	0	0	0	0	0	0	0	0	3	2	5	0	0	0	0	1	1	6
Exiting Leg	0						5						1						6
Total	0						10						2						12



Appendix B: MassDOT’s 2019 Weekday Seasonal Adjustment Factors

Massachusetts Highway Department
Statewide Traffic Data Collection
2019 Weekday Seasonal Factors

Factor Group	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Axle Factor
R1	1.22	1.14	1.12	1.06	1.00	0.96	0.87	0.85	0.96	0.99	1.04	1.12	0.85
R2	0.95	0.96	0.98	0.97	0.97	0.93	0.97	0.94	0.96	0.90	0.92	0.93	0.96
R3	1.15	1.06	1.07	1.00	0.89	0.88	0.89	0.89	0.95	0.92	1.02	1.01	0.97
R4-R7	1.09	1.09	1.11	1.02	0.96	0.92	0.89	0.89	0.99	0.98	1.09	1.13	0.98
U1-Boston	1.03	1.01	0.98	0.94	0.94	0.92	0.95	0.93	0.94	0.94	0.97	1.04	0.96
U1-Essex	1.09	1.06	1.03	0.99	0.94	0.90	0.88	0.86	0.93	0.94	0.99	1.06	0.93
U1-Southeast	1.06	1.05	1.01	0.97	0.95	0.93	0.93	0.90	0.94	0.94	0.98	1.04	0.98
U1-West	1.19	1.14	1.09	0.95	0.92	0.89	0.89	0.86	0.91	0.95	0.97	1.07	0.84
U1-Worcester	1.02	1.04	0.97	0.94	0.93	0.91	0.95	0.91	0.93	0.92	0.95	1.10	0.88
U2	1.01	1.00	0.94	0.93	0.91	0.89	0.93	0.90	0.90	0.91	0.94	1.02	0.99
U3	1.06	1.03	0.98	0.94	0.93	0.91	0.95	0.91	0.92	0.93	0.97	1.00	0.98
U4-U7	1.01	1.00	0.95	0.92	0.88	0.86	0.92	0.91	0.92	0.94	0.99	1.04	0.99
Rec - East	1.04	1.16	1.12	0.98	0.92	0.88	0.77	0.81	0.94	1.02	1.08	1.12	0.99
Rec - West	1.30	1.23	1.32	1.18	0.95	0.82	0.70	0.69	0.97	0.96	1.16	1.15	0.98

Round off:

0-999 = 10

>1000 = 100

U = Urban

R = Rural

1 - Interstate

2 - Freeway and Expressway

3 - Other Principal Arterial

4 - Minor Arterial

5 - Major Collector

6 - Minor Collector

7 - Local Road and Street

Recreational - East Group - Cape Cod (all towns) including the town of Plymouth south of Route 3A (stations 7014,7079,7080,7090,7091,7092,7093,7094,7095,7096,7097,7108 and 7178), Martha's Vineyard and Nantucket.

Recreational - West Group - Continuous Stations 2 and 189 including stations 1066,1067,1083,1084,1085,1086,1087,1088,1089,1090,1091,1092,1093,1094,1095,1096,1097,1098,1099,1100,1101,1102,1103,1104,1105,1106,1107,1108,1113,1114,1116,2196,2197 and 2198.



Appendix C: Crash Rate Worksheets

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : 2/4/2020

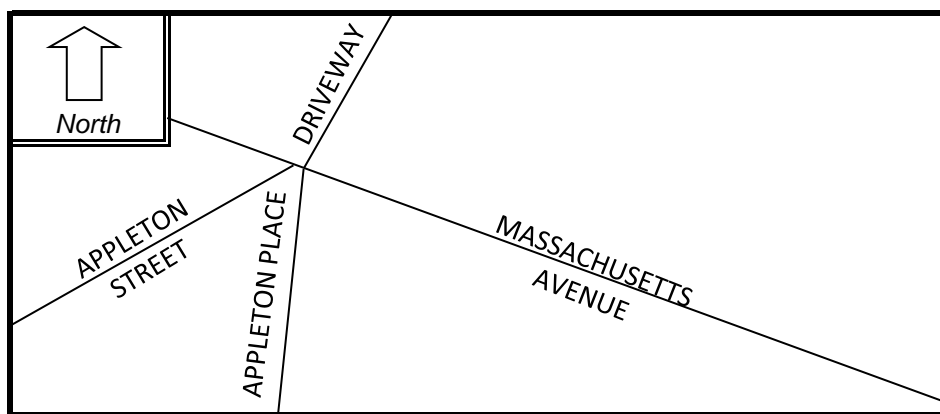
DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Appleton Street, Appleton Place, Commercial Driveway

**INTERSECTION
DIAGRAM**



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	NEB	SB	
PEAK HOURLY VOLUMES (AM/PM) :	376	625	64	159	0	1,224

" K " FACTOR :

0.08

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

15,300

TOTAL # OF CRASHES :

10

OF YEARS :

3

AVERAGE # OF CRASHES PER YEAR (A) :

3.33

CRASH RATE CALCULATION :

0.60

RATE =

$$\frac{(A * 1,000,000)}{(V * 365)}$$

Comments : AM Peak used

Project Title & Date: 1167 Massachusetts Ave, June 2020

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : 2/4/2020

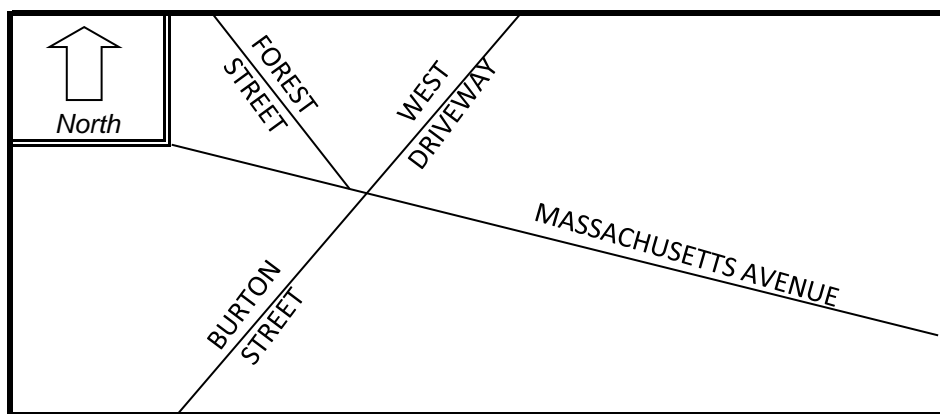
DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Forest Street, Burton Street, and Mirak Mill West Driveway

INTERSECTION
DIAGRAM



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SEB	SB	
PEAK HOURLY VOLUMES (AM/PM) :	492	541	28	281	2	1,344

" K " FACTOR :

0.08

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

16,800

TOTAL # OF CRASHES :

10

OF YEARS :

3

AVERAGE # OF CRASHES PER YEAR (A) :

3.33

CRASH RATE CALCULATION :

0.54

RATE =

$$\frac{(A * 1,000,000)}{(V * 365)}$$

Comments : AM Peak used

Project Title & Date: 1167 Massachusetts Ave, June 2020

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : 2/4/2020

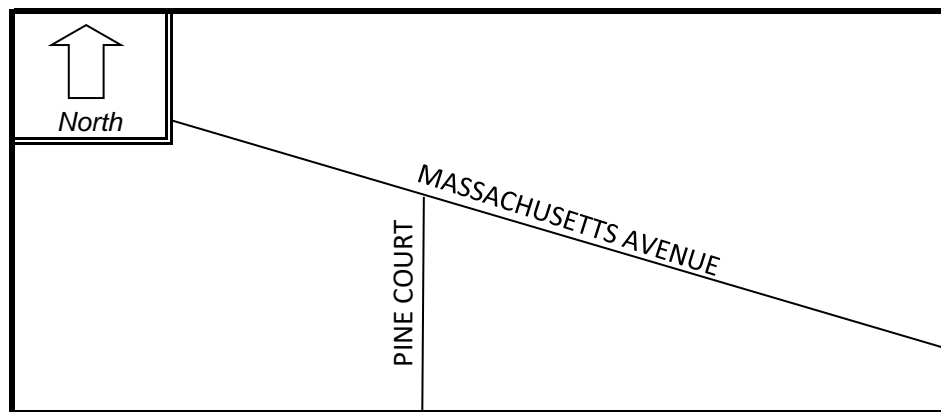
DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Pine Court

**INTERSECTION
DIAGRAM**



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :	591	445	2			1,038

" K " FACTOR :

0.08

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

12,975

TOTAL # OF CRASHES :

2

OF YEARS :

3

AVERAGE # OF CRASHES PER YEAR (A) :

0.67

CRASH RATE CALCULATION :

0.14

RATE =

$$\frac{(A * 1,000,000)}{(V * 365)}$$

Comments : PM Peak used

Project Title & Date: 1167 Massachusetts Ave, June 2020

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : 2/4/2020

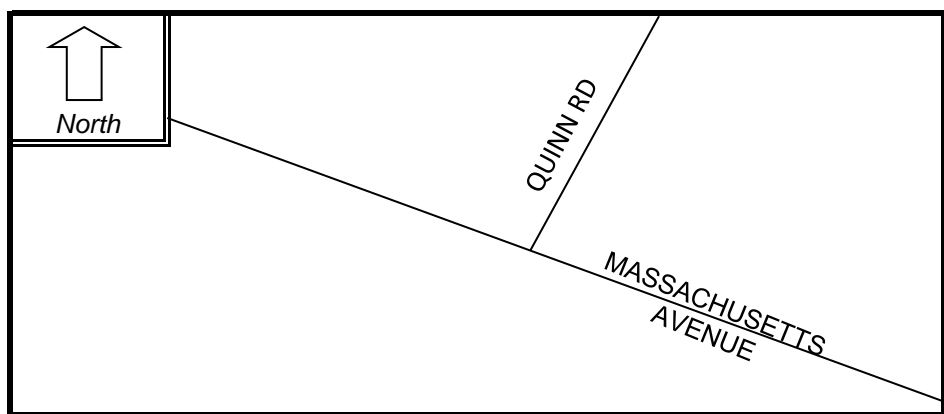
DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Massachusetts Avenue

MINOR STREET(S) : Quinn Road

**INTERSECTION
DIAGRAM**



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :	587	431		32		1,050

" K " FACTOR :

0.08

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

13,125

TOTAL # OF CRASHES :

0

OF YEARS :

3

AVERAGE # OF CRASHES PER YEAR (A) :

0.00

CRASH RATE CALCULATION :

0.00

RATE =

$$\frac{(A * 1,000,000)}{(V * 365)}$$

Comments : PM Peak used

Project Title & Date: 1167 Massachusetts Ave, June 2020

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : 2/4/2020

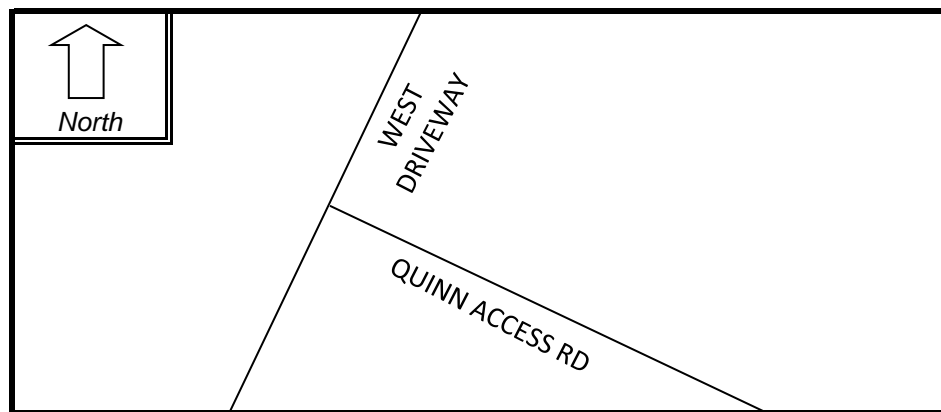
DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Mirak Mill Innovation Park West Driveway

MINOR STREET(S) : Quinn Access Road

**INTERSECTION
DIAGRAM**



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :		WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :		11	8	20		39

" K " FACTOR :

0.08

INTERSECTION ADT (V) = TOTAL DAILY
APPROACH VOLUME :

488

TOTAL # OF CRASHES :

0

OF
YEARS :

3

AVERAGE # OF
CRASHES PER YEAR
(A) :

0.00

CRASH RATE CALCULATION :

0.00

RATE =

$$\frac{(A * 1,000,000)}{(V * 365)}$$

Comments : PM Peak used

Project Title & Date: 1167 Massachusetts Ave, June 2020

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : 2/4/2020

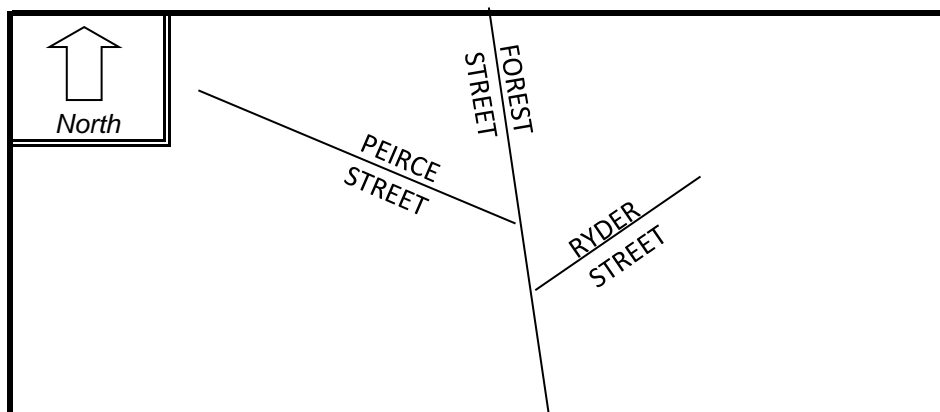
DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Forest Street

MINOR STREET(S) : Ryder Street and Peirce Street

INTERSECTION
DIAGRAM



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :	12	18	173	349		552

" K " FACTOR : INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

TOTAL # OF CRASHES : # OF YEARS : AVERAGE # OF CRASHES PER YEAR (A) :

CRASH RATE CALCULATION :

RATE =

$$\frac{(A * 1,000,000)}{(V * 365)}$$

Comments : AM Peak used

Project Title & Date: 1167 Massachusetts Ave, June 2020

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Arlington COUNT DATE : 2/4/2020

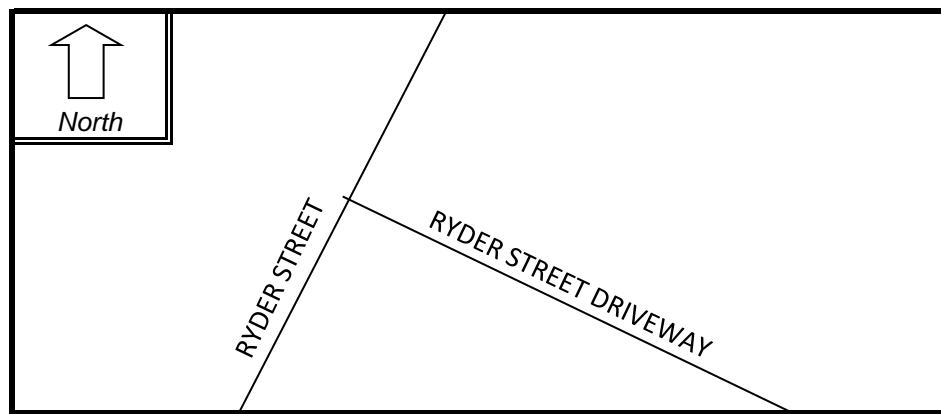
DISTRICT : 4 UNSIGNALIZED : ☒ SIGNALIZED : ☐

~ INTERSECTION DATA ~

MAJOR STREET : Ryder Street

MINOR STREET(S) : Ryder Street Driveway

INTERSECTION
DIAGRAM



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :		9	17	14		40

" K " FACTOR : INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

TOTAL # OF CRASHES : # OF YEARS : AVERAGE # OF CRASHES PER YEAR (A) :

CRASH RATE CALCULATION :

RATE =

$$\frac{(A * 1,000,000)}{(V * 365)}$$

Comments : AM Peak used

Project Title & Date: 1167 Massachusetts Ave, June 2020



Appendix D: Traffic Signal Warrant Analyses

MUTCD Traffic Signal Warrant Summary Worksheet

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: Massachusetts Avenue and Forest Street/Burton Street
City: Arlington

100%
Volume Level

Major Street: Massachusetts Avenue
Critical Approach Speed: 30 mph
Lanes: 1 lane

Minor Street: Forest St/ Burton St
Critical Approach Speed: 25 mph
Lanes: 1 lane

% Right Turns Included
From North (SB) 0%
From East (WB) 0%
From South (NB) 0%
From West (EB) 0%

In built-up area of isolated community of < 10,000 population? No
Total number of approaches at intersection? 4 or more
Manually set volume level? No

Analysis based on **EXISTING** volume data.

Date	Day of the Week	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2/5/2020	Wednesday	6:00	AM / PM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	Yes
Condition A: Minimum Vehicular Volume	No
Condition B: Interruption of Continuous Traffic	Yes
Condition C: Combination: 80% of A and B	No
Warrant 2: Four-Hour Volume	Yes
Warrant 3: Peak Hour Volume	Yes
Warrant 4: Pedestrian Volume	N/A
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	N/A
Warrant 6: Coordinated Signal System	N/A
Warrant 7: Crash Experience	N/A
Warrant 8: Roadway Network	N/A
Warrant 9: Intersection Near a Grade Crossing	N/A

Warrant Analysis Conducted By:

Name:

Date:

Nitsch Engineering

Warrant 1: Eight - Hour Vehicular Volume

100%

Warrant Evaluated? Yes

Condition A :		
Min. Veh. Volume		
Volume Level	100%	80%
Major Rd. Req	500	400
Minor Rd. Req	150	120
Number of Hours	2	4

Satisfied? No

Condition B:		
Interruption of Continuous Traffic		
Volume Level	100%	80%
Major Rd. Req	750	600
Minor Rd. Req	75	60
Number of Hours	11	12

Satisfied? Yes

Condition C:		
Combination of A & B at 80%		

Satisfied? No

Warrant Satisfied? Yes

Manually Set To:

6:00 AM		Enter Start Time (Military Time) (HH:MM)			Total
Time Period	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	
1	6:00	7:00	457	100	557
2	7:00	8:00	941	281	1222
3	8:00	9:00	981	230	1211
4	9:00	10:00	867	90	957
5	10:00	11:00	765	73	838
6	11:00	12:00	826	94	920
7	12:00	13:00	956	108	1064
8	13:00	14:00	881	80	961
9	14:00	15:00	927	104	1031
10	15:00	16:00	1021	100	1121
11	16:00	17:00	992	115	1107
12	17:00	18:00	1075	139	1214
13	18:00	19:00	919	125	1044
14	19:00	20:00	619	54	673
15	20:00	21:00	540	49	589
16	21:00	22:00	303	27	330

Warrant 2: Four-Hour Volume

100%

Four hours with highest total volume meeting warrant criteria:

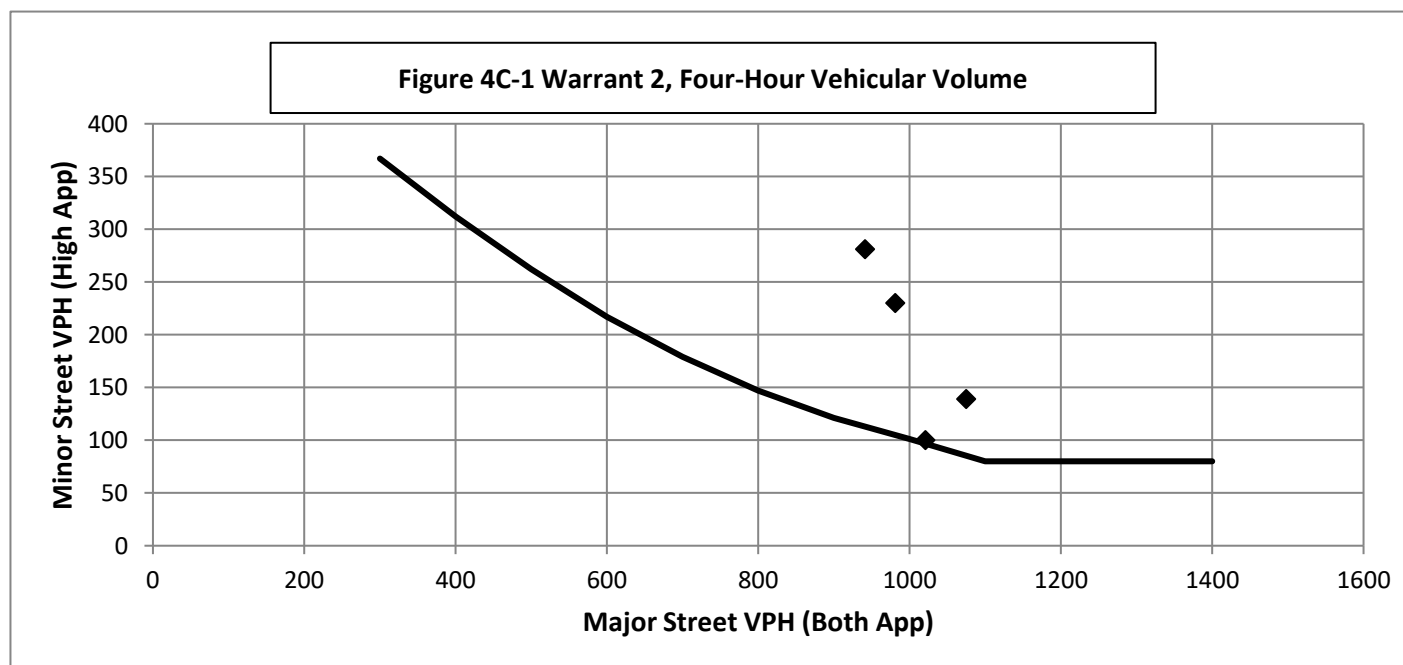
Hour Start	7:00	17:00	8:00	15:00
Major Road Vol.	941	1075	981	1021
Minor Road Vol.	281	139	230	100

Warrant Evaluated? Yes

Number of Hours 6

Warrant Satisfied? Yes

Manually Set To:



Warrant 3: Peak Hour Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? Yes

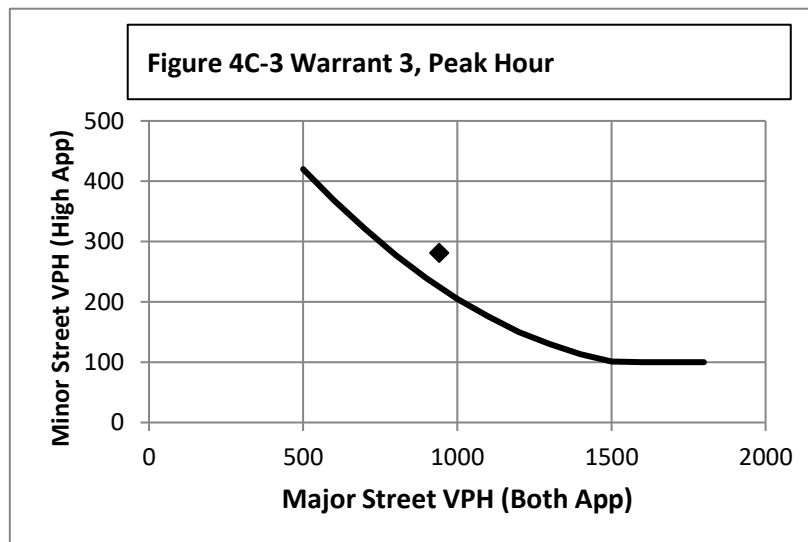
Manually Set To:

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	4	Yes
Volume on Minor Approach	100	
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour?

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
7:00	941	281



Warrant 4: Pedestrian Volume

100%

Warrant Evaluated? No

Warrant Satisfied? N/A

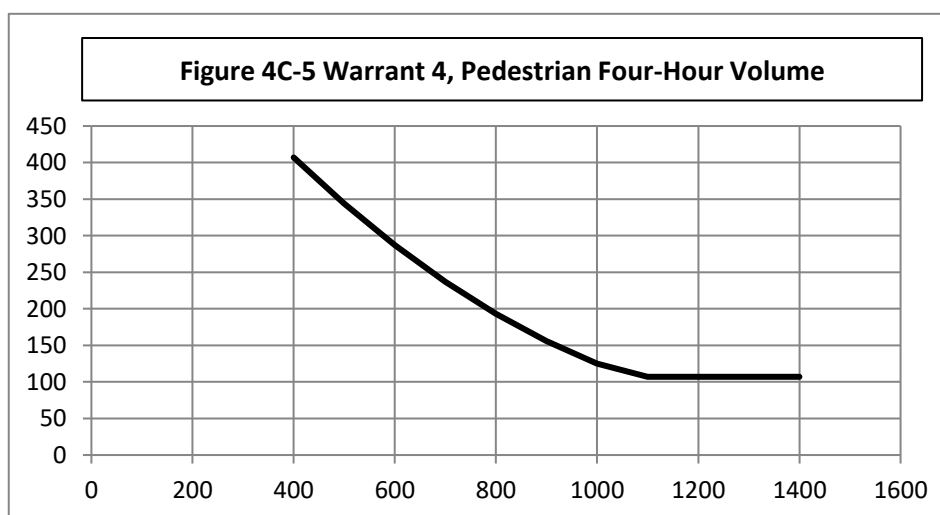
Manually Set To:

Criterion A: Four Hour

Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?
15th % walk speed < 3.5 ft/s?

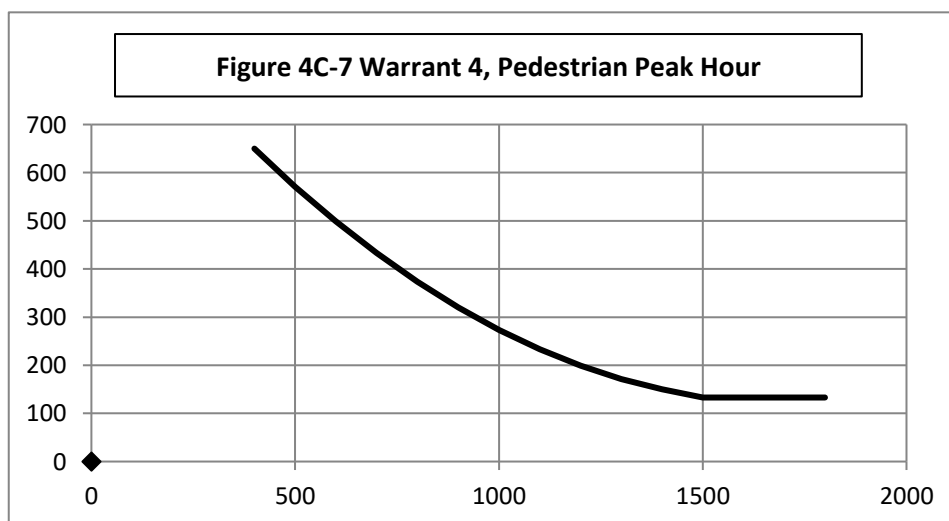
Criterion A Satisfied?



Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?



MUTCD Traffic Signal Warrant Summary Worksheet

The Worksheet(s) attached are provided as an attachment to the Engineering Investigation Study for:

Intersection: Massachusetts Avenue and Forest Street/Burton Street
City: Arlington

100%
Volume Level

Major Street: Massachusetts Avenue
Critical Approach Speed: 30 mph
Lanes: 1 lane

Minor Street: Quinn Street
Critical Approach Speed: 25 mph
Lanes: 1 lane

% Right Turns Included
From North (SB) 0%
From East (WB) 0%
From South (NB) 0%
From West (EB) 0%

In built-up area of isolated community of < 10,000 population? No
Total number of approaches at intersection? 4 or more
Manually set volume level? No

Analysis based on **EXISTING** volume data.

Date	Day of the Week	Time (HH:MM)			
		From	AM / PM	To	AM / PM
2/5/2020	Wednesday	6:00	AM / PM	10:00	PM

Warrant Evaluation Summary	Warrant Met:
Warrant 1: Eight - Hour Vehicular Volume	No
Condition A: Minimum Vehicular Volume	No
Condition B: Interruption of Continuous Traffic	No
Condition C: Combination: 80% of A and B	No
Warrant 2: Four-Hour Volume	No
Warrant 3: Peak Hour Volume	No
Warrant 4: Pedestrian Volume	N/A
Criterion A: Four-Hour	
Criterion B: Peak-Hour	
Warrant 5: School Crossing	N/A
Warrant 6: Coordinated Signal System	N/A
Warrant 7: Crash Experience	N/A
Warrant 8: Roadway Network	N/A
Warrant 9: Intersection Near a Grade Crossing	N/A

Warrant Analysis Conducted By:

Name: Ashrafur Rahman

Date: 2/21/2020

Nitsch Engineering

Warrant 1: Eight - Hour Vehicular Volume

100%

Warrant Evaluated? Yes

Condition A : Min. Veh. Volume		
Volume Level	100%	80%
Major Rd. Req	500	400
Minor Rd. Req	150	120
Number of Hours	0	0

Satisfied? No

Condition B: Interruption of Continuous Traffic		
Volume Level	100%	80%
Major Rd. Req	750	600
Minor Rd. Req	75	60
Number of Hours	0	0

Satisfied? No

Condition C: Combination of A & B at 80%		
---	--	--

Satisfied? No

Warrant Satisfied? No

Manually Set To:

6:00 AM		Enter Start Time (Military Time) (HH:MM)			Total
Time Period	From	To	Major Road: Both App. (VPH)	Minor Road: High App. (VPH)	
1	6:00	7:00	370	25	395
2	7:00	8:00	932	21	953
3	8:00	9:00	998	36	1034
4	9:00	10:00	828	35	863
5	10:00	11:00	742	13	755
6	11:00	12:00	804	29	833
7	12:00	13:00	900	28	928
8	13:00	14:00	489	28	517
9	14:00	15:00	669	24	693
10	15:00	16:00	979	20	999
11	16:00	17:00	910	25	935
12	17:00	18:00	934	31	965
13	18:00	19:00	810	12	822
14	19:00	20:00	632	6	638
15	20:00	21:00	531	8	539
16	21:00	22:00	348	2	350

Warrant 2: Four-Hour Volume

100%

Four hours with highest total volume meeting warrant criteria:

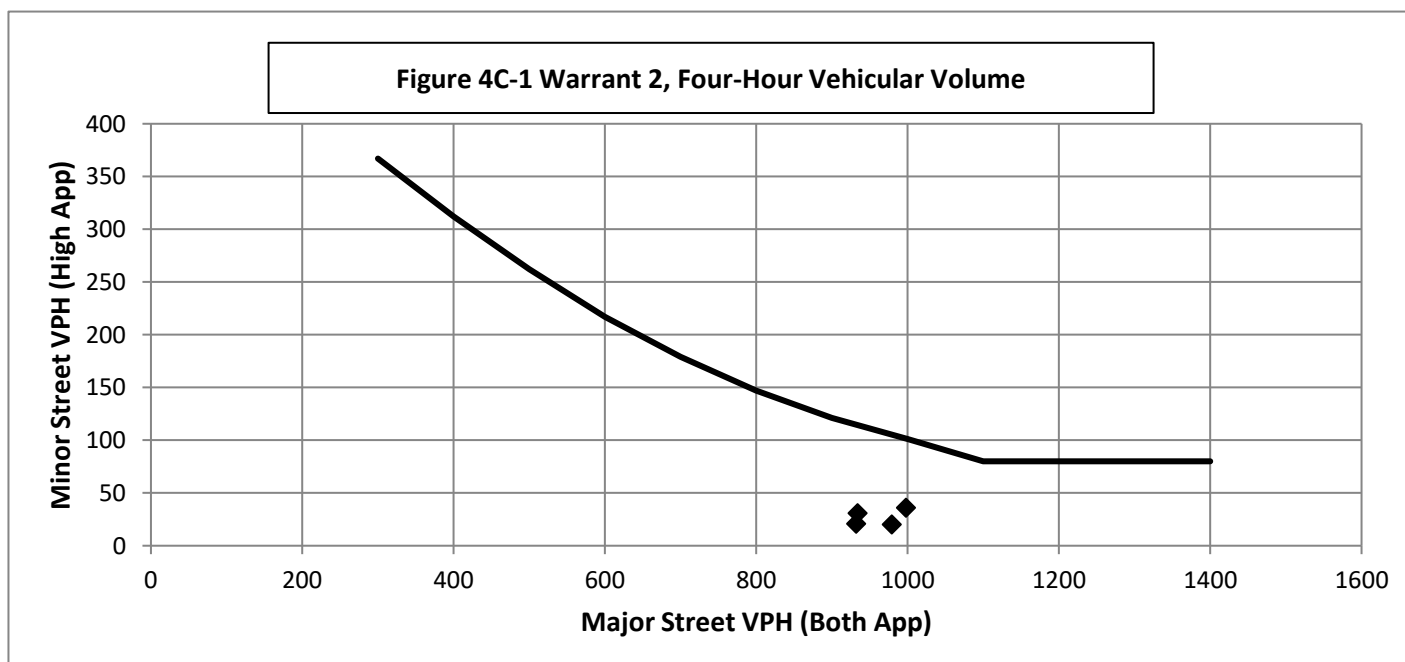
Hour Start	8:00	17:00	15:00	7:00
Major Road Vol.	998	934	979	932
Minor Road Vol.	36	31	20	21

Warrant Evaluated? Yes

Number of Hours 0

Warrant Satisfied? No

Manually Set To:



Warrant 3: Peak Hour Volume

100%

Warrant Evaluated? Yes

Warrant Satisfied? No

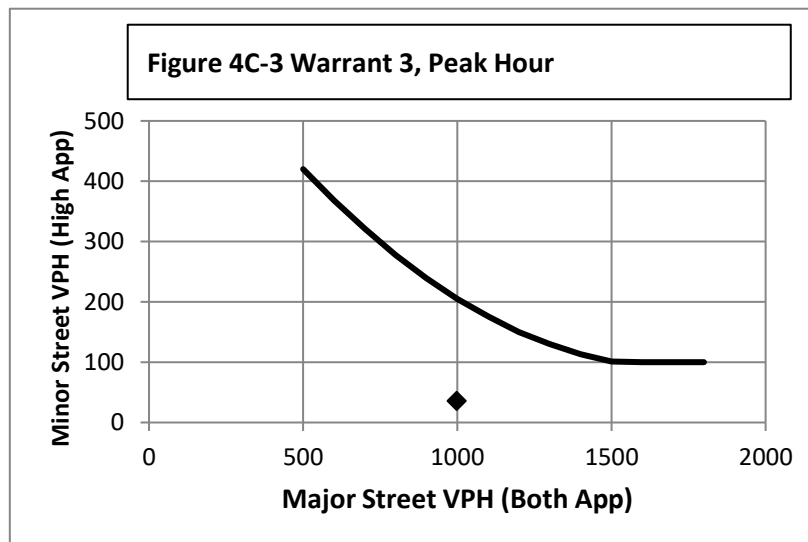
Manually Set To:

Condition justifying use of warrant:

Criteria		Met?
Delay on Minor Approach	4	No
Volume on Minor Approach	100	
Total Entering Volume (veh/h)	800	

Manually Set Peak Hour?

Peak Hour	Major Road Vol. (Both App.)	Minor Road Vol. (High App.)
8:00	998	36



Warrant 4: Pedestrian Volume

100%

Warrant Evaluated? No

Warrant Satisfied? N/A

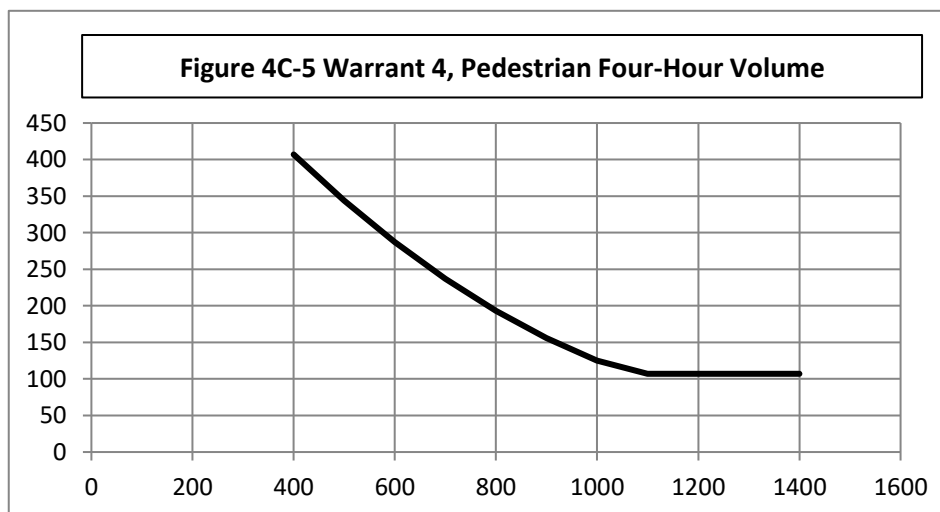
Manually Set To:

Criterion A: Four Hour

Hour (Start)	Pedestrian Volume	Major Road Vol.
		0
		0
		0
		0

Manually Set Major Rd Vol?
15th % walk speed < 3.5 ft/s?

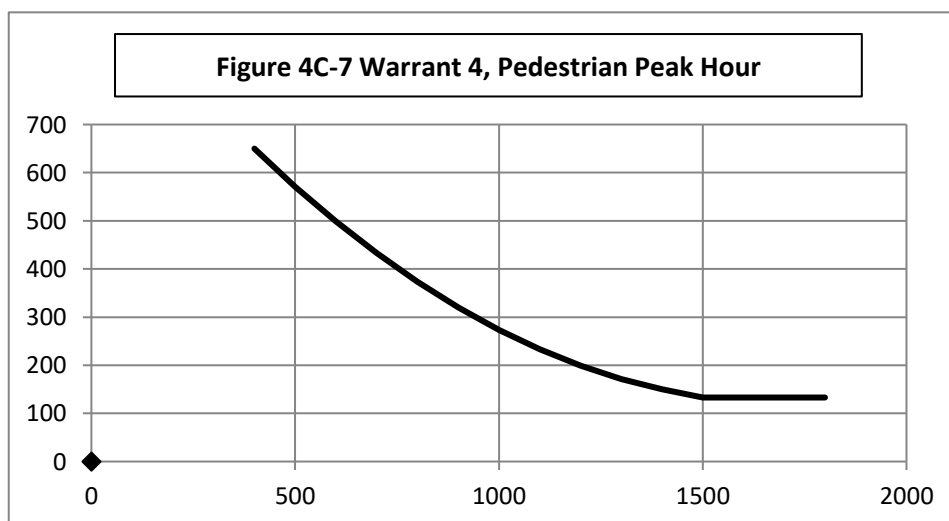
Criterion A Satisfied?



Criterion B: Peak Hour

Peak Hour	Pedestrian Vol.	Major Road Vol.
0:00	0	0

Criterion B Satisfied?





















Appendix E: Capacity Analysis

Lanes, Volumes, Timings
1: Appleton St & Appleton Pl & Massachusetts Ave

















2020 Existing AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	341	46	284	359	0	17	0	163	1	0	0
Future Volume (vph)	0	341	46	284	359	0	17	0	163	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Grade (%)		0%			0%			-4%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.984						0.878				
Flt Protected					0.978			0.995			0.950	
Satd. Flow (prot)	0	1580	0	0	1648	0	0	1678	0	0	1770	0
Flt Permitted					0.978			0.995			0.950	
Satd. Flow (perm)	0	1580	0	0	1648	0	0	1678	0	0	1770	0
Link Speed (mph)		15			15			25			25	
Link Distance (ft)		330			357			73			97	
Travel Time (s)		15.0			16.2			2.0			2.6	
Confl. Peds. (#/hr)	109		11	118		215	11		118	215		109
Confl. Bikes (#/hr)			2			1						
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.85	0.85	0.85	0.92	0.92	0.92
Heavy Vehicles (%)	0%	11%	2%	2%	7%	0%	0%	0%	1%	2%	2%	2%
Bus Blockages (#/hr)	8	8	8	8	8	8	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0						
Adj. Flow (vph)	0	455	61	338	427	0	20	0	192	1	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	516	0	0	765	0	0	212	0	0	1	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	1.10	0.92	0.92	1.10	0.92	0.97	0.97	0.97	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 81.9%	ICU Level of Service D											
Analysis Period (min) 15												

HCM Unsignalized Intersection Capacity Analysis










1: Appleton St & Appleton Pl & Massachusetts Ave

2020 Existing AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	341	46	284	359	0	17	0	163	1	0	0
Future Volume (Veh/h)	0	341	46	284	359	0	17	0	163	1	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			-4%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.85	0.85	0.85	0.92	0.92	0.92
Hourly flow rate (vph)	0	455	61	338	427	0	20	0	192	1	0	0
Pedestrians		109			215			118			215	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		12			24			11			20	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	642			634			1816	1922	818	2210	1952	751
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	642			634			1816	1922	818	2210	1952	751
tC, single (s)	4.1			4.1			*4.0	6.5	*3.0	*3.0	*3.0	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	4.0	*3.0	3.5	4.0	3.3
p0 queue free %	100			60			85	100	66	99	100	100
cM capacity (veh/h)	757			842			131	29	565	86	183	287
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	516	765	212	1								
Volume Left	0	338	20	1								
Volume Right	61	0	192	0								
cSH	757	842	430	86								
Volume to Capacity	0.00	0.40	0.49	0.01								
Queue Length 95th (ft)	0	49	66	1								
Control Delay (s)	0.0	9.0	21.2	47.5								
Lane LOS		A	C	E								
Approach Delay (s)	0.0	9.0	21.2	47.5								
Approach LOS			C	E								
Intersection Summary												
Average Delay			7.6									
Intersection Capacity Utilization			81.9%	ICU Level of Service						D		
Analysis Period (min)			15									
* User Entered Value												










Lanes, Volumes, Timings
2: Appleton St & Appleton Pl

2020 Existing AM Peak Hour

						
Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	35	29	26	304	151	8
Future Volume (vph)	35	29	26	304	151	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	12	12	12
Grade (%)	-4%		0%		-4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.939		0.876		0.994	
Flt Protected	0.973		0.996		0.955	
Satd. Flow (prot)	1657	0	1628	0	1640	0
Flt Permitted	0.973		0.996		0.955	
Satd. Flow (perm)	1657	0	1628	0	1640	0
Link Speed (mph)	25		25		25	
Link Distance (ft)	178		73		363	
Travel Time (s)	4.9		2.0		9.9	
Confl. Peds. (#/hr)	109	91	91	18	18	109
Confl. Bikes (#/hr)						4
Peak Hour Factor	0.38	0.38	0.84	0.84	0.85	0.85
Heavy Vehicles (%)	6%	0%	0%	2%	1%	0%
Parking (#/hr)					0	0
Adj. Flow (vph)	92	76	31	362	178	9
Shared Lane Traffic (%)						
Lane Group Flow (vph)	168	0	393	0	187	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Right
Median Width(ft)	11		12		12	
Link Offset(ft)	0		0		0	
Crosswalk Width(ft)	16		16		16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	1.00	1.00	1.12	0.97
Turning Speed (mph)	15	9	15	9	15	9
Sign Control	Stop		Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	58.1%			ICU Level of Service B		
Analysis Period (min)	15					

















HCM Unsignalized Intersection Capacity Analysis 2: Appleton St & Appleton Pl

2020 Existing AM Peak Hour

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	35	29	26	304	151	8
Future Volume (Veh/h)	35	29	26	304	151	8
Sign Control	Stop		Free		Stop	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.38	0.38	0.84	0.84	0.85	0.85
Hourly flow rate (vph)	92	76	31	362	178	9
Pedestrians	109		91		109	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	10		9		10	
Right turn flare (veh)						
Median type			None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	642	200	109		565	461
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	642	200	109		565	461
tC, single (s)	*5.0	*5.0	4.1		*5.0	*5.0
tC, 2 stage (s)						
tF (s)	*3.0	*3.0	2.2		*3.0	*3.0
p0 queue free %	82	91	98		52	99
cM capacity (veh/h)	503	816	1352		370	604
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	168	393	187			
Volume Left	0	31	178			
Volume Right	76	362	0			
cSH	609	1352	377			
Volume to Capacity	0.28	0.02	0.50			
Queue Length 95th (ft)	28	2	66			
Control Delay (s)	13.2	0.8	23.6			
Lane LOS	B	A	C			
Approach Delay (s)	13.2	0.8	23.6			
Approach LOS	B		C			
Intersection Summary						
Average Delay			9.3			
Intersection Capacity Utilization			58.1%	ICU Level of Service		B
Analysis Period (min)			15			
* User Entered Value						

Lanes, Volumes, Timings
3: Burton St/Forest St & Massachusetts Ave

















2020 Existing AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	415	1	10	445	98	0	9	19	65	22	194
Future Volume (vph)	91	415	1	10	445	98	0	9	19	65	22	194
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.976			0.908			0.907	
Flt Protected		0.991			0.999						0.989	
Satd. Flow (prot)	0	1675	0	0	1764	0	0	1553	0	0	1670	0
Flt Permitted		0.991			0.999						0.989	
Satd. Flow (perm)	0	1675	0	0	1764	0	0	1553	0	0	1670	0
Link Speed (mph)		15			25			25			15	
Link Distance (ft)		357			87			283			336	
Travel Time (s)		16.2			2.4			7.7			15.3	
Confl. Peds. (#/hr)	57		56	8		9	56		8	9		57
Confl. Bikes (#/hr)			4			1						
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.44	0.44	0.44	0.89	0.89	0.89
Heavy Vehicles (%)	3%	9%	0%	0%	6%	1%	0%	0%	0%	3%	0%	2%
Parking (#/hr)	0	0	0				0	0	0			
Adj. Flow (vph)	105	477	1	11	511	113	0	20	43	73	25	218
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	583	0	0	635	0	0	63	0	0	316	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	1.05	0.92	1.00	1.00	1.00	1.00	1.14	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	93.4%											
Analysis Period (min)	15											
ICU Level of Service F												

HCM Unsignalized Intersection Capacity Analysis










3: Burton St/Forest St & Massachusetts Ave

2020 Existing AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	415	1	10	445	98	0	9	19	65	22	194
Future Volume (Veh/h)	91	415	1	10	445	98	0	9	19	65	22	194
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.44	0.44	0.44	0.89	0.89	0.89
Hourly flow rate (vph)	105	477	1	11	511	113	0	20	43	73	25	218
Pedestrians		57			9			56			57	
Lane Width (ft)		14.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		6			1			5			5	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	681			534			1620	1446	542	1396	1390	682
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	681			534			1620	1446	542	1396	1390	682
tC, single (s)	4.1			4.1			7.1	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	88			99			100	91	93	63	89	60
cM capacity (veh/h)	858			988			34	215	659	198	228	541
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	583	635	63	316								
Volume Left	105	11	0	73								
Volume Right	1	113	43	218								
cSH	858	988	398	358								
Volume to Capacity	0.12	0.01	0.16	0.88								
Queue Length 95th (ft)	10	1	14	214								
Control Delay (s)	3.1	0.3	15.7	57.1								
Lane LOS	A	A	C	F								
Approach Delay (s)	3.1	0.3	15.7	57.1								
Approach LOS			C	F								
Intersection Summary												
Average Delay			13.2									
Intersection Capacity Utilization			93.4%		ICU Level of Service					F		
Analysis Period (min)			15									
* User Entered Value												










Lanes, Volumes, Timings
4: Massachusetts Ave & West Dr

2020 Existing AM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	22	477	552	6	1	1
Future Volume (vph)	22	477	552	6	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	14	14	10	10
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.999		0.932	
Flt Protected		0.998			0.976	
Satd. Flow (prot)	0	1585	1720	0	1613	0
Flt Permitted		0.998			0.976	
Satd. Flow (perm)	0	1585	1720	0	1613	0
Link Speed (mph)		25	15		10	
Link Distance (ft)		87	240		169	
Travel Time (s)		2.4	10.9		11.5	
Confl. Peds. (#/hr)	8			8	8	8
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.25	0.25
Heavy Vehicles (%)	0%	8%	6%	1%	0%	0%
Parking (#/hr)	0	0	0	0		
Adj. Flow (vph)	25	548	634	7	4	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	573	641	0	8	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.14	1.05	0.92	1.09	1.09
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	55.3%			ICU Level of Service B		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 4: Massachusetts Ave & West Dr

2020 Existing AM Peak Hour

						
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	22	477	552	6	1	1
Future Volume (Veh/h)	22	477	552	6	1	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.25	0.25
Hourly flow rate (vph)	25	548	634	7	4	4
Pedestrians		8	8		8	
Lane Width (ft)		12.0	14.0		10.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	649				1252	654
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	649				1252	654
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	97				99	99
cM capacity (veh/h)	941				326	619
Direction, Lane #	EB 1	WB 1	SW 1			
Volume Total	573	641	8			
Volume Left	25	0	4			
Volume Right	0	7	4			
cSH	941	1700	427			
Volume to Capacity	0.03	0.38	0.02			
Queue Length 95th (ft)	2	0	1			
Control Delay (s)	0.7	0.0	13.6			
Lane LOS	A		B			
Approach Delay (s)	0.7	0.0	13.6			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			55.3%	ICU Level of Service		B
Analysis Period (min)			15			
* User Entered Value						

Lanes, Volumes, Timings
5: Pine Ct & Massachusetts Ave










2020 Existing AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↰	↰	
Traffic Volume (vph)	484	2	0	553	1	7
Future Volume (vph)	484	2	0	553	1	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	14	12	12
Grade (%)	0%			0%	-4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.882	
Flt Protected					0.994	
Satd. Flow (prot)	1506	0	0	1563	1529	0
Flt Permitted					0.994	
Satd. Flow (perm)	1506	0	0	1563	1529	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	240			134	415	
Travel Time (s)	6.5			3.7	11.3	
Confl. Peds. (#/hr)		10	10		10	10
Confl. Bikes (#/hr)		3				
Peak Hour Factor	0.85	0.85	0.88	0.88	0.50	0.50
Heavy Vehicles (%)	9%	0%	0%	5%	0%	0%
Parking (#/hr)	0	0	0	0		
Adj. Flow (vph)	569	2	0	628	2	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	571	0	0	628	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.20	1.05	1.05	1.20	1.12	1.12
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	CBD					
Control Type:	Unsignalized					
Intersection Capacity Utilization	45.2%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis










5: Pine Ct & Massachusetts Ave

2020 Existing AM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	484	2	0	553	1	7
Future Volume (Veh/h)	484	2	0	553	1	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	-4%	
Peak Hour Factor	0.85	0.85	0.88	0.88	0.50	0.50
Hourly flow rate (vph)	569	2	0	628	2	14
Pedestrians	10			10	10	
Lane Width (ft)	14.0			14.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			581		1218	590
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			581		1218	590
tC, single (s)			4.1		*5.0	*5.0
tC, 2 stage (s)						
tF (s)			2.2		*3.0	*3.0
p0 queue free %			100		99	98
cM capacity (veh/h)			994		345	656
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	571	628	16			
Volume Left	0	0	2			
Volume Right	2	0	14			
cSH	1700	994	589			
Volume to Capacity	0.34	0.00	0.03			
Queue Length 95th (ft)	0	0	2			
Control Delay (s)	0.0	0.0	11.3			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	11.3			
Approach LOS			B			
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			45.2%	ICU Level of Service		A
Analysis Period (min)			15			
* User Entered Value						

Lanes, Volumes, Timings
6: Massachusetts Ave & Quinn Rd










2020 Existing AM Peak Hour

						
Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	28	466	547	10	3	7
Future Volume (vph)	28	466	547	10	3	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	14	14	14	14
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.907	
Flt Protected		0.997			0.985	
Satd. Flow (prot)	0	1758	1677	0	1652	0
Flt Permitted		0.997			0.985	
Satd. Flow (perm)	0	1758	1677	0	1652	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		134	384		203	
Travel Time (s)		3.7	10.5		5.5	
Confl. Peds. (#/hr)	10			10	10	10
Confl. Bikes (#/hr)				3		
Peak Hour Factor	0.85	0.85	0.88	0.88	0.62	0.62
Heavy Vehicles (%)	4%	8%	5%	0%	0%	14%
Parking (#/hr)			6	0		
Adj. Flow (vph)	33	548	622	11	5	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	581	633	0	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		14	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.10	0.92	0.92	0.92
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	60.3%			ICU Level of Service B		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis










6: Massachusetts Ave & Quinn Rd

2020 Existing AM Peak Hour

						
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	28	466	547	10	3	7
Future Volume (Veh/h)	28	466	547	10	3	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.88	0.88	0.62	0.62
Hourly flow rate (vph)	33	548	622	11	5	11
Pedestrians		10	10		10	
Lane Width (ft)		12.0	14.0		14.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	643				1262	648
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	643				1262	648
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	96				98	98
cM capacity (veh/h)	922				317	619
Direction, Lane #	SE 1	NW 1	SW 1			
Volume Total	581	633	16			
Volume Left	33	0	5			
Volume Right	0	11	11			
cSH	922	1700	477			
Volume to Capacity	0.04	0.37	0.03			
Queue Length 95th (ft)	3	0	3			
Control Delay (s)	1.0	0.0	12.8			
Lane LOS	A		B			
Approach Delay (s)	1.0	0.0	12.8			
Approach LOS			B			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			60.3%	ICU Level of Service		B
Analysis Period (min)			15			
* User Entered Value						

Lanes, Volumes, Timings
7: West Dr/Mill Brook Br & Quinn Access Rd










2020 Existing AM Peak Hour

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	2	1	18	8	5	2
Future Volume (vph)	2	1	18	8	5	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	9	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.966		0.959			
Flt Protected	0.964					0.966
Satd. Flow (prot)	1592	0	1822	0	0	1449
Flt Permitted	0.964					0.966
Satd. Flow (perm)	1592	0	1822	0	0	1449
Link Speed (mph)	25		25			25
Link Distance (ft)	315		169			187
Travel Time (s)	8.6		4.6			5.1
Peak Hour Factor	0.75	0.75	0.61	0.61	0.35	0.35
Heavy Vehicles (%)	0%	0%	0%	0%	20%	0%
Parking (#/hr)	0	0				
Adj. Flow (vph)	3	1	30	13	14	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	0	43	0	0	20
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.14	1.00	1.00	1.00	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	14.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

















7: West Dr/Mill Brook Br & Quinn Access Rd

2020 Existing AM Peak Hour

						
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	2	1	18	8	5	2
Future Volume (Veh/h)	2	1	18	8	5	2
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.61	0.61	0.35	0.35
Hourly flow rate (vph)	3	1	30	13	14	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	70	36			43	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	70	36			43	
tC, single (s)	6.4	6.2			4.3	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.4	
p0 queue free %	100	100			99	
cM capacity (veh/h)	930	1042			1457	
Direction, Lane #	NW 1	NE 1	SW 1			
Volume Total	4	43	20			
Volume Left	3	0	14			
Volume Right	1	13	0			
cSH	955	1700	1457			
Volume to Capacity	0.00	0.03	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	8.8	0.0	5.3			
Lane LOS	A		A			
Approach Delay (s)	8.8	0.0	5.3			
Approach LOS	A					
Intersection Summary						
Average Delay			2.1			
Intersection Capacity Utilization			14.5%	ICU Level of Service		A
Analysis Period (min)			15			

















Lanes, Volumes, Timings
8: Forest St & Peirce St/Ryder St

2020 Existing AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	0	1	8	0	3	3	171	9	10	269	63
Future Volume (vph)	10	0	1	8	0	3	3	171	9	10	269	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	12	12	12	11	11	11
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.986			0.966			0.993			0.975	
Flt Protected		0.957			0.964			0.999			0.998	
Satd. Flow (prot)	0	1733	0	0	1440	0	0	1827	0	0	1767	0
Flt Permitted		0.957			0.964			0.999			0.998	
Satd. Flow (perm)	0	1733	0	0	1440	0	0	1827	0	0	1767	0
Link Speed (mph)		25			25			20			25	
Link Distance (ft)		451			157			336			396	
Travel Time (s)		12.3			4.3			11.5			10.8	
Confl. Peds. (#/hr)	10		13	3			13		3			10
Peak Hour Factor	0.55	0.55	0.55	0.69	0.69	0.69	0.82	0.82	0.82	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	25%	0%	0%	33%	1%	33%	0%	1%	2%
Adj. Flow (vph)	18	0	2	12	0	4	4	209	11	12	313	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	0	0	16	0	0	224	0	0	398	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	37.3%											
Analysis Period (min)	15											
ICU Level of Service A												










HCM Unsignalized Intersection Capacity Analysis 8: Forest St & Peirce St/Ryder St

2020 Existing AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	0	1	8	0	3	3	171	9	10	269	63
Future Volume (Veh/h)	10	0	1	8	0	3	3	171	9	10	269	63
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.55	0.55	0.55	0.69	0.69	0.69	0.82	0.82	0.82	0.86	0.86	0.86
Hourly flow rate (vph)	18	0	2	12	0	4	4	209	11	12	313	73
Pedestrians	13			3			13			10		
Lane Width (ft)	11.0			11.0			12.0			11.0		
Walking Speed (ft/s)	3.5			3.5			3.5			3.5		
Percent Blockage	1			0			1			1		
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	623	618	376	614	648	228	399				223	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	623	618	376	614	648	228	399				223	
tC, single (s)	7.1	6.5	6.2	7.3	6.5	6.2	4.4				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.7	4.0	3.3	2.5				2.2	
p0 queue free %	95	100	100	97	100	100	100				99	
cM capacity (veh/h)	383	397	659	359	381	808	999				1354	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	20	16	224	398								
Volume Left	18	12	4	12								
Volume Right	2	4	11	73								
cSH	400	417	999	1354								
Volume to Capacity	0.05	0.04	0.00	0.01								
Queue Length 95th (ft)	4	3	0	1								
Control Delay (s)	14.5	14.0	0.2	0.3								
Lane LOS	B	B	A	A								
Approach Delay (s)	14.5	14.0	0.2	0.3								
Approach LOS	B	B										
Intersection Summary												
Average Delay				1.0								
Intersection Capacity Utilization				37.3%	ICU Level of Service				A			
Analysis Period (min)				15								










Lanes, Volumes, Timings
9: Ryder St & South Dr

2020 Existing AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	2	1	7	13	4	9
Future Volume (vph)	2	1	7	13	4	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.949		0.913			
Flt Protected	0.970					0.985
Satd. Flow (prot)	1749	0	1417	0	0	1463
Flt Permitted	0.970					0.985
Satd. Flow (perm)	1749	0	1417	0	0	1463
Link Speed (mph)	25		25			25
Link Distance (ft)	269		157			797
Travel Time (s)	7.3		4.3			21.7
Confl. Peds. (#/hr)	32	32		32	32	
Confl. Bikes (#/hr)				2		
Peak Hour Factor	0.38	0.38	0.71	0.71	0.81	0.81
Heavy Vehicles (%)	0%	0%	14%	8%	0%	22%
Parking (#/hr)			0	0	0	0
Adj. Flow (vph)	5	3	10	18	5	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	28	0	0	16
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.14	1.00	1.00	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	26.5%			ICU Level of Service A		
Analysis Period (min)	15					

















HCM Unsignalized Intersection Capacity Analysis 9: Ryder St & South Dr

2020 Existing AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	1	7	13	4	9
Future Volume (Veh/h)	2	1	7	13	4	9
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.38	0.38	0.71	0.71	0.81	0.81
Hourly flow rate (vph)	5	3	10	18	5	11
Pedestrians	32		32			32
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	3		3			3
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	104	83			60	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	104	83			60	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	842	923			1509	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	8	28	16			
Volume Left	5	0	5			
Volume Right	3	18	0			
cSH	871	1700	1509			
Volume to Capacity	0.01	0.02	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	9.2	0.0	2.3			
Lane LOS	A		A			
Approach Delay (s)	9.2	0.0	2.3			
Approach LOS	A					
Intersection Summary						
Average Delay		2.1				
Intersection Capacity Utilization		26.5%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
1: Appleton St & Appleton Pl & Massachusetts Ave

















2020 Existing PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	423	18	114	318	2	18	1	331	1	1	3
Future Volume (vph)	3	423	18	114	318	2	18	1	331	1	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Grade (%)		0%			0%			-4%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.995			0.999			0.872			0.925	
Flt Protected					0.987			0.997			0.989	
Satd. Flow (prot)	0	1724	0	0	1699	0	0	1669	0	0	1738	0
Flt Permitted					0.987			0.997			0.989	
Satd. Flow (perm)	0	1724	0	0	1699	0	0	1669	0	0	1738	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		330			357			73			97	
Travel Time (s)		9.0			9.7			2.0			2.6	
Confl. Peds. (#/hr)	21		1	7		27	1		7	27		21
Confl. Bikes (#/hr)			2			2						
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.90	0.90	0.90	0.62	0.62	0.62
Heavy Vehicles (%)	0%	2%	0%	1%	3%	0%	0%	0%	1%	0%	0%	0%
Bus Blockages (#/hr)	8	8	8	8	8	8	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0						
Adj. Flow (vph)	3	455	19	130	361	2	20	1	368	2	2	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	477	0	0	493	0	0	389	0	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	1.10	0.92	0.92	1.10	0.92	0.97	0.97	0.97	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 80.4%	ICU Level of Service D											
Analysis Period (min) 15												

HCM Unsignalized Intersection Capacity Analysis










1: Appleton St & Appleton Pl & Massachusetts Ave

2020 Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	423	18	114	318	2	18	1	331	1	1	3
Future Volume (Veh/h)	3	423	18	114	318	2	18	1	331	1	1	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			-4%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.90	0.90	0.90	0.62	0.62	0.62
Hourly flow rate (vph)	3	455	19	130	361	2	20	1	368	2	2	5
Pedestrians		21			27			7			27	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			3			1			3	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	390			481			1126	1128	498	1515	1136	410
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	390			481			1126	1128	498	1515	1136	410
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	3.5	4.0	3.3
p0 queue free %	100			88			94	100	48	95	99	99
cM capacity (veh/h)	1149			1080			326	328	707	40	173	615
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	477	493	389	9								
Volume Left	3	130	20	2								
Volume Right	19	2	368	5								
cSH	1149	1080	665	128								
Volume to Capacity	0.00	0.12	0.58	0.07								
Queue Length 95th (ft)	0	10	95	6								
Control Delay (s)	0.1	3.3	17.7	35.2								
Lane LOS	A	A	C	E								
Approach Delay (s)	0.1	3.3	17.7	35.2								
Approach LOS			C	E								
Intersection Summary												
Average Delay			6.5									
Intersection Capacity Utilization			80.4%		ICU Level of Service				D			
Analysis Period (min)			15									
* User Entered Value												










Lanes, Volumes, Timings
2: Appleton St & Appleton Pl

2020 Existing PM Peak Hour

						
Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	3	23	10	123	327	5
Future Volume (vph)	3	23	10	123	327	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	12	12	12
Grade (%)	-4%		0%		-4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.882		0.875		0.998	
Flt Protected	0.994		0.996		0.953	
Satd. Flow (prot)	1642	0	1626	0	1643	0
Flt Permitted	0.994		0.996		0.953	
Satd. Flow (perm)	1642	0	1626	0	1643	0
Link Speed (mph)	25		25		25	
Link Distance (ft)	178		73		363	
Travel Time (s)	4.9		2.0		9.9	
Confl. Peds. (#/hr)	20	18	9	11	11	20
Peak Hour Factor	0.65	0.65	0.84	0.84	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%
Parking (#/hr)					0	0
Adj. Flow (vph)	5	35	12	146	363	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	40	0	158	0	369	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Right
Median Width(ft)	11		12		12	
Link Offset(ft)	0		0		0	
Crosswalk Width(ft)	16		16		16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	1.00	1.00	1.12	0.97
Turning Speed (mph)	15	9	15	9	15	9
Sign Control	Stop		Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	46.8%			ICU Level of Service A		
Analysis Period (min)	15					

















HCM Unsignalized Intersection Capacity Analysis 2: Appleton St & Appleton Pl

2020 Existing PM Peak Hour

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	3	23	10	123	327	5
Future Volume (Veh/h)	3	23	10	123	327	5
Sign Control	Stop		Free		Stop	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.65	0.65	0.84	0.84	0.90	0.90
Hourly flow rate (vph)	5	35	12	146	363	6
Pedestrians	20		18		20	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	210	38	20		172	137
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	210	38	20		172	137
tC, single (s)	*5.0	*5.0	4.1		*5.0	*5.0
tC, 2 stage (s)						
tF (s)	*3.0	*3.0	2.2		*3.0	*3.0
p0 queue free %	99	97	99		60	99
cM capacity (veh/h)	935	1117	1581		912	1004
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	40	158	369			
Volume Left	0	12	363			
Volume Right	35	146	0			
cSH	1090	1581	913			
Volume to Capacity	0.04	0.01	0.40			
Queue Length 95th (ft)	3	1	49			
Control Delay (s)	8.4	0.6	11.6			
Lane LOS	A	A	B			
Approach Delay (s)	8.4	0.6	11.6			
Approach LOS	A		B			
Intersection Summary						
Average Delay			8.3			
Intersection Capacity Utilization			46.8%	ICU Level of Service	A	
Analysis Period (min)			15			
* User Entered Value						

Lanes, Volumes, Timings
3: Burton St/Forest St & Massachusetts Ave

















2020 Existing PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	201	562	2	3	375	92	1	3	8	38	4	65
Future Volume (vph)	201	562	2	3	375	92	1	3	8	38	4	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.973			0.912			0.918	
Flt Protected		0.987						0.995			0.983	
Satd. Flow (prot)	0	1676	0	0	1799	0	0	1552	0	0	1715	0
Flt Permitted		0.987						0.995			0.983	
Satd. Flow (perm)	0	1676	0	0	1799	0	0	1552	0	0	1715	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		357			87			283			336	
Travel Time (s)		9.7			2.4			7.7			9.2	
Confl. Peds. (#/hr)	19		21			2	19		14	16		21
Confl. Bikes (#/hr)			2			3						1
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.60	0.60	0.60	0.81	0.81	0.81
Heavy Vehicles (%)	3%	9%	0%	0%	3%	2%	0%	0%	0%	0%	0%	0%
Parking (#/hr)	0	0	0				0	0	0			
Adj. Flow (vph)	216	604	2	3	426	105	2	5	13	47	5	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	822	0	0	534	0	0	20	0	0	132	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	1.05	0.92	1.00	1.00	1.00	1.00	1.14	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	90.6%											
Analysis Period (min)	15											
ICU Level of Service E												

HCM Unsignalized Intersection Capacity Analysis










3: Burton St/Forest St & Massachusetts Ave

2020 Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	201	562	2	3	375	92	1	3	8	38	4	65
Future Volume (Veh/h)	201	562	2	3	375	92	1	3	8	38	4	65
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.60	0.60	0.60	0.81	0.81	0.81
Hourly flow rate (vph)	216	604	2	3	426	105	2	5	13	47	5	80
Pedestrians	21			16			21			19		
Lane Width (ft)	14.0			12.0			12.0			12.0		
Walking Speed (ft/s)	3.5			3.5			3.5			3.5		
Percent Blockage	2			2			2			2		
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	550				627				1646	1614	642	1572
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	550				627				1646	1614	642	1572
tC, single (s)	4.1				4.1				*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2				2.2				*3.0	*3.0	*3.0	*3.0
p0 queue free %	78				100				99	97	98	74
cM capacity (veh/h)	996				945				150	174	613	182
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	822	534	20	132								
Volume Left	216	3	2	47								
Volume Right	2	105	13	80								
cSH	996	945	316	328								
Volume to Capacity	0.22	0.00	0.06	0.40								
Queue Length 95th (ft)	21	0	5	47								
Control Delay (s)	4.9	0.1	17.1	23.1								
Lane LOS	A	A	C	C								
Approach Delay (s)	4.9	0.1	17.1	23.1								
Approach LOS				C	C							
Intersection Summary												
Average Delay				5.0								
Intersection Capacity Utilization				90.6%	ICU Level of Service				E			
Analysis Period (min)				15								
* User Entered Value												










Lanes, Volumes, Timings
4: Massachusetts Ave & West Dr

2020 Existing PM Peak Hour

						
Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	6	602	453	2	6	17
Future Volume (vph)	6	602	453	2	6	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	14	14	10	10
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.999		0.899	
Flt Protected					0.988	
Satd. Flow (prot)	0	1677	1769	0	1575	0
Flt Permitted					0.988	
Satd. Flow (perm)	0	1677	1769	0	1575	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		87	240		169	
Travel Time (s)		2.4	6.5		4.6	
Confl. Peds. (#/hr)					19	19
Confl. Bikes (#/hr)				3		
Peak Hour Factor	0.93	0.93	0.88	0.88	0.64	0.64
Heavy Vehicles (%)	0%	2%	3%	0%	0%	0%
Parking (#/hr)	0	0	0	0		
Adj. Flow (vph)	6	647	515	2	9	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	653	517	0	36	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.14	1.05	0.92	1.09	1.09
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	51.2%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 4: Massachusetts Ave & West Dr

2020 Existing PM Peak Hour

						
Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	6	602	453	2	6	17
Future Volume (Veh/h)	6	602	453	2	6	17
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.88	0.88	0.64	0.64
Hourly flow rate (vph)	6	647	515	2	9	27
Pedestrians		19	19			
Lane Width (ft)		12.0	14.0			
Walking Speed (ft/s)		3.5	3.5			
Percent Blockage		2	2			
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	517				1194	535
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	517				1194	535
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				97	96
cM capacity (veh/h)	1059				351	695
Direction, Lane #	EB 1	WB 1	SW 1			
Volume Total	653	517	36			
Volume Left	6	0	9			
Volume Right	0	2	27			
cSH	1059	1700	558			
Volume to Capacity	0.01	0.30	0.06			
Queue Length 95th (ft)	0	0	5			
Control Delay (s)	0.2	0.0	11.9			
Lane LOS	A		B			
Approach Delay (s)	0.2	0.0	11.9			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			51.2%	ICU Level of Service		A
Analysis Period (min)			15			
* User Entered Value						










Lanes, Volumes, Timings
5: Pine Ct & Massachusetts Ave

2020 Existing PM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↗			↖	↗	
Traffic Volume (vph)	606	3	2	456	1	1
Future Volume (vph)	606	3	2	456	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	14	12	12
Grade (%)	0%			0%	-4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.999				0.932	
Flt Protected					0.976	
Satd. Flow (prot)	1608	0	0	1641	1587	0
Flt Permitted					0.976	
Satd. Flow (perm)	1608	0	0	1641	1587	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	240			134	415	
Travel Time (s)	6.5			3.7	11.3	
Confl. Peds. (#/hr)		8	8		8	8
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.92	0.92	0.90	0.90	0.50	0.50
Heavy Vehicles (%)	2%	0%	3%	0%	0%	0%
Parking (#/hr)	0	0	0	0		
Adj. Flow (vph)	659	3	2	507	2	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	662	0	0	509	4	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.20	1.05	1.05	1.20	1.12	1.12
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	CBD					
Control Type:	Unsignalized					
Intersection Capacity Utilization	48.0%			ICU Level of Service A		
Analysis Period (min)	15					










HCM Unsignalized Intersection Capacity Analysis 5: Pine Ct & Massachusetts Ave

2020 Existing PM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	606	3	2	456	1	1
Future Volume (Veh/h)	606	3	2	456	1	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	-4%	
Peak Hour Factor	0.92	0.92	0.90	0.90	0.50	0.50
Hourly flow rate (vph)	659	3	2	507	2	2
Pedestrians	8			8	8	
Lane Width (ft)	14.0			14.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			670		1188	676
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			670		1188	676
tC, single (s)			4.1		*5.0	*5.0
tC, 2 stage (s)						
tF (s)			2.2		*3.0	*3.0
p0 queue free %			100		99	100
cM capacity (veh/h)			909		356	603
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	662	509	4			
Volume Left	0	2	2			
Volume Right	3	0	2			
cSH	1700	909	448			
Volume to Capacity	0.39	0.00	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.1	13.1			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.1	13.1			
Approach LOS			B			
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			48.0%	ICU Level of Service	A	
Analysis Period (min)			15			
* User Entered Value						

Lanes, Volumes, Timings
6: Massachusetts Ave & Quinn Rd










2020 Existing PM Peak Hour

						
Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	4	600	439	5	13	19
Future Volume (vph)	4	600	439	5	13	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	14	14	14	14
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.920	
Flt Protected					0.980	
Satd. Flow (prot)	0	1863	1726	0	1775	0
Flt Permitted					0.980	
Satd. Flow (perm)	0	1863	1726	0	1775	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		134	384		203	
Travel Time (s)		3.7	10.5		5.5	
Confl. Peds. (#/hr)	20			21	21	20
Confl. Bikes (#/hr)				7		
Peak Hour Factor	0.98	0.98	0.90	0.90	0.50	0.50
Heavy Vehicles (%)	0%	2%	2%	0%	0%	5%
Parking (#/hr)			6	0		
Adj. Flow (vph)	4	612	488	6	26	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	616	494	0	64	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		14	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.10	0.92	0.92	0.92
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	49.6%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis










6: Massachusetts Ave & Quinn Rd

2020 Existing PM Peak Hour

						
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	4	600	439	5	13	19
Future Volume (Veh/h)	4	600	439	5	13	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.98	0.98	0.90	0.90	0.50	0.50
Hourly flow rate (vph)	4	612	488	6	26	38
Pedestrians		20	21		21	
Lane Width (ft)		12.0	14.0		14.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		2	2		2	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	515				1153	532
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	515				1153	532
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	100				93	94
cM capacity (veh/h)	1036				358	680
Direction, Lane #	SE 1	NW 1	SW 1			
Volume Total	616	494	64			
Volume Left	4	0	26			
Volume Right	0	6	38			
cSH	1036	1700	498			
Volume to Capacity	0.00	0.29	0.13			
Queue Length 95th (ft)	0	0	11			
Control Delay (s)	0.1	0.0	13.3			
Lane LOS	A		B			
Approach Delay (s)	0.1	0.0	13.3			
Approach LOS			B			
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization		49.6%		ICU Level of Service		A
Analysis Period (min)		15				
* User Entered Value						

Lanes, Volumes, Timings
7: West Dr/Mill Brook Br & Quinn Access Rd










2020 Existing PM Peak Hour

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	11	0	3	5	0	20
Future Volume (vph)	11	0	3	5	0	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	9	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.913			
Flt Protected	0.950					
Satd. Flow (prot)	1624	0	1735	0	0	1693
Flt Permitted	0.950					
Satd. Flow (perm)	1624	0	1735	0	0	1693
Link Speed (mph)	25		25			25
Link Distance (ft)	315		169			187
Travel Time (s)	8.6		4.6			5.1
Confl. Peds. (#/hr)	2	2		2	2	
Peak Hour Factor	0.58	0.58	0.58	0.58	0.50	0.50
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%
Parking (#/hr)	0	0				
Adj. Flow (vph)	19	0	5	9	0	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	19	0	14	0	0	40
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.14	1.00	1.00	1.00	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	14.6%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

















7: West Dr/Mill Brook Br & Quinn Access Rd

2020 Existing PM Peak Hour

						
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	11	0	3	5	0	20
Future Volume (Veh/h)	11	0	3	5	0	20
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.58	0.58	0.58	0.58	0.50	0.50
Hourly flow rate (vph)	19	0	5	9	0	40
Pedestrians	2		2			2
Lane Width (ft)	12.0		12.0			9.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	54	14			16	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	54	14			16	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	956	1069			1612	
Direction, Lane #	NW 1	NE 1	SW 1			
Volume Total	19	14	40			
Volume Left	19	0	0			
Volume Right	0	9	0			
cSH	956	1700	1612			
Volume to Capacity	0.02	0.01	0.00			
Queue Length 95th (ft)	2	0	0			
Control Delay (s)	8.8	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.8	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			14.6%	ICU Level of Service		A
Analysis Period (min)			15			

















Lanes, Volumes, Timings
8: Forest St & Peirce St/Ryder St

2020 Existing PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	1	2	9	1	5	4	273	4	5	90	5
Future Volume (vph)	7	1	2	9	1	5	4	273	4	5	90	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	12	12	12	11	11	11
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.975			0.961			0.998			0.993	
Flt Protected		0.965			0.974			0.999			0.997	
Satd. Flow (prot)	0	1728	0	0	1719	0	0	1870	0	0	1818	0
Flt Permitted		0.965			0.974			0.999			0.997	
Satd. Flow (perm)	0	1728	0	0	1719	0	0	1870	0	0	1818	0
Link Speed (mph)		25			25			20			25	
Link Distance (ft)		451			157			336			396	
Travel Time (s)		12.3			4.3			11.5			10.8	
Confl. Peds. (#/hr)	5		6	2		1	6		2	1		5
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.83	0.83	0.83	0.67	0.25	0.75	0.93	0.93	0.93	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	25%	1%	0%	0%	0%	0%
Adj. Flow (vph)	8	1	2	13	4	7	4	294	4	6	107	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	11	0	0	24	0	0	302	0	0	119	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	27.7%											
Analysis Period (min)	15											
ICU Level of Service A												










HCM Unsignalized Intersection Capacity Analysis 8: Forest St & Peirce St/Ryder St

2020 Existing PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	1	2	9	1	5	4	273	4	5	90	5
Future Volume (Veh/h)	7	1	2	9	1	5	4	273	4	5	90	5
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.83	0.83	0.83	0.67	0.25	0.75	0.93	0.93	0.93	0.84	0.84	0.84
Hourly flow rate (vph)	8	1	2	13	4	7	4	294	4	6	107	6
Pedestrians	6			2			6			5		
Lane Width (ft)	11.0			11.0			12.0			11.0		
Walking Speed (ft/s)	3.5			3.5			3.5			3.5		
Percent Blockage	1			0			1			0		
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	446	436	122	436	437	303	119				300	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	446	436	122	436	437	303	119				300	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.3				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.4				2.2	
p0 queue free %	98	100	100	98	99	99	100				100	
cM capacity (veh/h)	507	509	924	522	509	737	1331				1270	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	11	24	302	119								
Volume Left	8	13	4	6								
Volume Right	2	7	4	6								
cSH	553	568	1331	1270								
Volume to Capacity	0.02	0.04	0.00	0.00								
Queue Length 95th (ft)	2	3	0	0								
Control Delay (s)	11.6	11.6	0.1	0.4								
Lane LOS	B	B	A	A								
Approach Delay (s)	11.6	11.6	0.1	0.4								
Approach LOS	B	B										
Intersection Summary												
Average Delay				1.1								
Intersection Capacity Utilization				27.7%	ICU Level of Service				A			
Analysis Period (min)				15								










Lanes, Volumes, Timings
9: Ryder St & South Dr

2020 Existing PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	9	1	5	4	0	5
Future Volume (vph)	9	1	5	4	0	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.984		0.937			
Flt Protected	0.958					
Satd. Flow (prot)	1791	0	1435	0	0	1402
Flt Permitted	0.958					
Satd. Flow (perm)	1791	0	1435	0	0	1402
Link Speed (mph)	25		25			25
Link Distance (ft)	269		157			797
Travel Time (s)	7.3		4.3			21.7
Confl. Peds. (#/hr)	6	5		6	5	
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.62	0.62	0.59	0.59	0.42	0.42
Heavy Vehicles (%)	0%	0%	0%	25%	0%	22%
Parking (#/hr)			0	0	0	0
Adj. Flow (vph)	15	2	8	7	0	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	0	15	0	0	12
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.14	1.00	1.00	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	16.7%			ICU Level of Service A		
Analysis Period (min)	15					

















HCM Unsignalized Intersection Capacity Analysis 9: Ryder St & South Dr

2020 Existing PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	9	1	5	4	0	5
Future Volume (Veh/h)	9	1	5	4	0	5
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.62	0.62	0.59	0.59	0.42	0.42
Hourly flow rate (vph)	15	2	8	7	0	12
Pedestrians	6		6			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	1		1			0
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	36	22			21	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	36	22			21	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	971	1049			1599	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	17	15	12			
Volume Left	15	0	0			
Volume Right	2	7	0			
cSH	980	1700	1599			
Volume to Capacity	0.02	0.01	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.7	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.7	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay		3.4				
Intersection Capacity Utilization		16.7%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
1: Appleton St & Appleton Pl & Massachusetts Ave

















2025 No-Build AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	376	51	313	396	0	19	0	180	0	0	0
Future Volume (vph)	0	376	51	313	396	0	19	0	180	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Grade (%)		0%			0%			-4%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.984						0.878				
Flt Protected					0.978			0.995				
Satd. Flow (prot)	0	1581	0	0	1648	0	0	1678	0	0	1863	0
Flt Permitted					0.978			0.995				
Satd. Flow (perm)	0	1581	0	0	1648	0	0	1678	0	0	1863	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		330			357			73			97	
Travel Time (s)		9.0			9.7			2.0			2.6	
Confl. Peds. (#/hr)	109		11	118		215	11		118	215		109
Confl. Bikes (#/hr)			2			1						
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.85	0.85	0.85	0.92	0.92	0.92
Heavy Vehicles (%)	0%	11%	2%	2%	7%	0%	0%	0%	1%	2%	2%	2%
Bus Blockages (#/hr)	8	8	8	8	8	8	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0						
Adj. Flow (vph)	0	501	68	373	471	0	22	0	212	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	569	0	0	844	0	0	234	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	1.10	0.92	0.92	1.10	0.92	0.97	0.97	0.97	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	89.3%						ICU Level of Service E					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis










1: Appleton St & Appleton Pl & Massachusetts Ave

2025 No-Build AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	376	51	313	396	0	19	0	180	0	0	0
Future Volume (Veh/h)	0	376	51	313	396	0	19	0	180	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			-4%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.85	0.85	0.85	0.92	0.92	0.92
Hourly flow rate (vph)	0	501	68	373	471	0	22	0	212	0	0	0
Pedestrians		109			215			118			215	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		12			24			11			20	
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	686			687			1979	2085	868	2394	2119	795
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	686			687			1979	2085	868	2394	2119	795
tC, single (s)	4.1			4.1			*4.0	6.5	*3.0	*3.0	*3.0	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	4.0	*3.0	3.5	*3.0	3.3
p0 queue free %	100			54			79	100	62	100	100	100
cM capacity (veh/h)	729			805			107	20	553	68	166	271
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	569	844	234	0								
Volume Left	0	373	22	0								
Volume Right	68	0	212	0								
cSH	729	805	397	1700								
Volume to Capacity	0.00	0.46	0.59	0.01								
Queue Length 95th (ft)	0	62	91	0								
Control Delay (s)	0.0	10.6	26.3	0.0								
Lane LOS		B	D	A								
Approach Delay (s)	0.0	10.6	26.3	0.0								
Approach LOS			D	A								
Intersection Summary												
Average Delay			9.2									
Intersection Capacity Utilization			89.3%		ICU Level of Service				E			
Analysis Period (min)			15									
* User Entered Value												

Lanes, Volumes, Timings
2: Appleton St & Appleton Pl










2025 No-Build AM Peak Hour

						
Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	39	32	29	335	167	9
Future Volume (vph)	39	32	29	335	167	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	12	12	12
Grade (%)	-4%		0%		-4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.939		0.876		0.993	
Flt Protected	0.973		0.996		0.955	
Satd. Flow (prot)	1657	0	1628	0	1639	0
Flt Permitted	0.973		0.996		0.955	
Satd. Flow (perm)	1657	0	1628	0	1639	0
Link Speed (mph)	25		25		25	
Link Distance (ft)	178		73		363	
Travel Time (s)	4.9		2.0		9.9	
Confl. Peds. (#/hr)	109	91	91	18	18	109
Confl. Bikes (#/hr)						4
Peak Hour Factor	0.38	0.38	0.84	0.84	0.85	0.85
Heavy Vehicles (%)	6%	0%	0%	2%	1%	0%
Parking (#/hr)					0	0
Adj. Flow (vph)	103	84	35	399	196	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	187	0	434	0	207	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Right
Median Width(ft)	11		12		12	
Link Offset(ft)	0		0		0	
Crosswalk Width(ft)	16		16		16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	1.00	1.00	1.12	0.97
Turning Speed (mph)	15	9	15	9	15	9
Sign Control	Stop		Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	60.2%			ICU Level of Service B		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

















2: Appleton St & Appleton Pl

2025 No-Build AM Peak Hour

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	39	32	29	335	167	9
Future Volume (Veh/h)	39	32	29	335	167	9
Sign Control	Stop		Free		Stop	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.38	0.38	0.84	0.84	0.85	0.85
Hourly flow rate (vph)	103	84	35	399	196	11
Pedestrians	109		91		109	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	10		9		10	
Right turn flare (veh)						
Median type			None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	687	200	109		605	488
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	687	200	109		605	488
tC, single (s)	*5.0	*5.0	4.1		*5.0	*5.0
tC, 2 stage (s)						
tF (s)	*3.0	*3.0	2.2		*3.0	*3.0
p0 queue free %	79	90	97		43	98
cM capacity (veh/h)	479	816	1352		341	586
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	187	434	207			
Volume Left	0	35	196			
Volume Right	84	399	0			
cSH	588	1352	349			
Volume to Capacity	0.32	0.03	0.59			
Queue Length 95th (ft)	34	2	91			
Control Delay (s)	13.9	0.9	29.3			
Lane LOS	B	A	D			
Approach Delay (s)	13.9	0.9	29.3			
Approach LOS	B		D			
Intersection Summary						
Average Delay		10.9				
Intersection Capacity Utilization		60.2%		ICU Level of Service		B
Analysis Period (min)		15				
* User Entered Value						

Lanes, Volumes, Timings
3: Burton St/Forest St & Massachusetts Ave

















2025 No-Build AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	456	1	10	491	108	0	10	21	72	24	214
Future Volume (vph)	100	456	1	10	491	108	0	10	21	72	24	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.976			0.909			0.907	
Flt Protected		0.991			0.999						0.988	
Satd. Flow (prot)	0	1675	0	0	1764	0	0	1554	0	0	1668	0
Flt Permitted		0.991			0.999						0.988	
Satd. Flow (perm)	0	1675	0	0	1764	0	0	1554	0	0	1668	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		357			87			283			336	
Travel Time (s)		9.7			2.4			7.7			9.2	
Confl. Peds. (#/hr)	57		56	8		9	56		8	9		57
Confl. Bikes (#/hr)			4			1						
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.44	0.44	0.44	0.89	0.89	0.89
Heavy Vehicles (%)	3%	9%	0%	0%	6%	1%	0%	0%	0%	3%	0%	2%
Parking (#/hr)	0	0	0				0	0	0			
Adj. Flow (vph)	115	524	1	11	564	124	0	23	48	81	27	240
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	640	0	0	699	0	0	71	0	0	348	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	1.05	0.92	1.00	1.00	1.00	1.00	1.14	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	100.8%						ICU Level of Service G					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

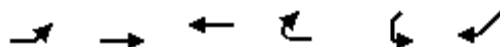
3: Burton St/Forest St & Massachusetts Ave

2025 No-Build AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	456	1	10	491	108	0	10	21	72	24	214
Future Volume (Veh/h)	100	456	1	10	491	108	0	10	21	72	24	214
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.44	0.44	0.44	0.89	0.89	0.89
Hourly flow rate (vph)	115	524	1	11	564	124	0	23	48	81	27	240
Pedestrians		57			9			56			57	
Lane Width (ft)		14.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		6			1			5			5	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	745			581			1769	1578	590	1528	1516	740
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	745			581			1769	1578	590	1528	1516	740
tC, single (s)	4.1			4.1			7.1	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	86			99			100	87	92	50	86	53
cM capacity (veh/h)	812			950			23	183	629	163	195	510
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	640	699	71	348								
Volume Left	115	11	0	81								
Volume Right	1	124	48	240								
cSH	812	950	352	314								
Volume to Capacity	0.14	0.01	0.20	1.11								
Queue Length 95th (ft)	12	1	19	343								
Control Delay (s)	3.5	0.3	17.8	119.7								
Lane LOS	A	A	C	F								
Approach Delay (s)	3.5	0.3	17.8	119.7								
Approach LOS			C	F								
Intersection Summary												
Average Delay			25.8									
Intersection Capacity Utilization			100.8%	ICU Level of Service					G			
Analysis Period (min)			15									
* User Entered Value												

Lanes, Volumes, Timings
4: Massachusetts Ave & West Dr

2025 No-Build AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	22	527	608	6	1	1
Future Volume (vph)	22	527	608	6	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	14	14	10	10
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.999		0.932	
Flt Protected		0.998			0.976	
Satd. Flow (prot)	0	1585	1720	0	1613	0
Flt Permitted		0.998			0.976	
Satd. Flow (perm)	0	1585	1720	0	1613	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		87	240		169	
Travel Time (s)		2.4	6.5		4.6	
Confl. Peds. (#/hr)	8			8	8	8
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.25	0.25
Heavy Vehicles (%)	0%	8%	6%	1%	0%	0%
Parking (#/hr)	0	0	0	0		
Adj. Flow (vph)	25	606	699	7	4	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	631	706	0	8	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.14	1.05	0.92	1.09	1.09
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

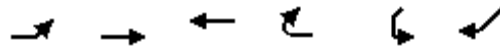
Control Type: Unsignalized




Intersection Capacity Utilization 57.9% ICU Level of Service B

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis 4: Massachusetts Ave & West Dr

2025 No-Build AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	22	527	608	6	1	1
Future Volume (Veh/h)	22	527	608	6	1	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.25	0.25
Hourly flow rate (vph)	25	606	699	7	4	4
Pedestrians		8	8		8	
Lane Width (ft)		12.0	14.0		10.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	714				1374	718
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	714				1374	718
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*5.0	*5.0
p0 queue free %	97				98	99
cM capacity (veh/h)	890				229	414
Direction, Lane #	EB 1	WB 1	SW 1			
Volume Total	631	706	8			
Volume Left	25	0	4			
Volume Right	0	7	4			
cSH	890	1700	295			
Volume to Capacity	0.03	0.42	0.03			
Queue Length 95th (ft)	2	0	2			
Control Delay (s)	0.7	0.0	17.6			
Lane LOS	A		C			
Approach Delay (s)	0.7	0.0	17.6			
Approach LOS			C			
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			57.9%	ICU Level of Service		B
Analysis Period (min)			15			

* User Entered Value










Lanes, Volumes, Timings
5: Pine Ct & Massachusetts Ave

2025 No-Build AM Peak Hour

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↘↗	
Traffic Volume (vph)	534	2	0	610	1	8
Future Volume (vph)	534	2	0	610	1	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	14	12	12
Grade (%)	0%			0%	-4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.880	
Flt Protected					0.994	
Satd. Flow (prot)	1506	0	0	1563	1526	0
Flt Permitted					0.994	
Satd. Flow (perm)	1506	0	0	1563	1526	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	240			134	415	
Travel Time (s)	6.5			3.7	11.3	
Confl. Peds. (#/hr)		10	10		10	10
Confl. Bikes (#/hr)		3				
Peak Hour Factor	0.85	0.85	0.88	0.88	0.50	0.50
Heavy Vehicles (%)	9%	0%	0%	5%	0%	0%
Parking (#/hr)	0	0	0	0		
Adj. Flow (vph)	628	2	0	693	2	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	630	0	0	693	18	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.20	1.05	1.05	1.20	1.12	1.12
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	CBD					
Control Type:	Unsignalized					
Intersection Capacity Utilization	48.5%			ICU Level of Service A		
Analysis Period (min)	15					










HCM Unsignalized Intersection Capacity Analysis 5: Pine Ct & Massachusetts Ave

2025 No-Build AM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	534	2	0	610	1	8
Future Volume (Veh/h)	534	2	0	610	1	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	-4%	
Peak Hour Factor	0.85	0.85	0.88	0.88	0.50	0.50
Hourly flow rate (vph)	628	2	0	693	2	16
Pedestrians	10			10	10	
Lane Width (ft)	14.0			14.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			640		1342	649
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			640		1342	649
tC, single (s)			4.1		*5.0	*5.0
tC, 2 stage (s)						
tF (s)			2.2		*3.0	*3.0
p0 queue free %			100		99	97
cM capacity (veh/h)			945		303	618
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	630	693	18			
Volume Left	0	0	2			
Volume Right	2	0	16			
cSH	1700	945	554			
Volume to Capacity	0.37	0.00	0.03			
Queue Length 95th (ft)	0	0	3			
Control Delay (s)	0.0	0.0	11.7			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	11.7			
Approach LOS			B			
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			48.5%	ICU Level of Service		A
Analysis Period (min)			15			
* User Entered Value						

Lanes, Volumes, Timings
6: Massachusetts Ave & Quinn Rd










2025 No-Build AM Peak Hour

						
Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	28	513	603	10	3	7
Future Volume (vph)	28	513	603	10	3	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	14	14	14	14
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.907	
Flt Protected		0.997			0.985	
Satd. Flow (prot)	0	1757	1677	0	1652	0
Flt Permitted		0.997			0.985	
Satd. Flow (perm)	0	1757	1677	0	1652	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		134	384		203	
Travel Time (s)		3.7	10.5		5.5	
Confl. Peds. (#/hr)	10			10	10	10
Confl. Bikes (#/hr)				3		
Peak Hour Factor	0.85	0.85	0.88	0.88	0.62	0.62
Heavy Vehicles (%)	4%	8%	5%	0%	0%	14%
Parking (#/hr)			6	0		
Adj. Flow (vph)	33	604	685	11	5	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	637	696	0	16	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		14	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.10	0.92	0.92	0.92
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	62.7%			ICU Level of Service B		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis










6: Massachusetts Ave & Quinn Rd

2025 No-Build AM Peak Hour

						
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	28	513	603	10	3	7
Future Volume (Veh/h)	28	513	603	10	3	7
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.88	0.88	0.62	0.62
Hourly flow rate (vph)	33	604	685	11	5	11
Pedestrians		10	10		10	
Lane Width (ft)		12.0	14.0		14.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	706				1380	710
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	706				1380	710
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	96				98	98
cM capacity (veh/h)	873				279	581
Direction, Lane #	SE 1	NW 1	SW 1			
Volume Total	637	696	16			
Volume Left	33	0	5			
Volume Right	0	11	11			
cSH	873	1700	434			
Volume to Capacity	0.04	0.41	0.04			
Queue Length 95th (ft)	3	0	3			
Control Delay (s)	1.0	0.0	13.6			
Lane LOS	A		B			
Approach Delay (s)	1.0	0.0	13.6			
Approach LOS			B			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			62.7%	ICU Level of Service		B
Analysis Period (min)			15			
* User Entered Value						

Lanes, Volumes, Timings
7: West Dr/Mill Brook Br & Quinn Access Rd










2025 No-Build AM Peak Hour

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	2	1	18	8	5	2
Future Volume (vph)	2	1	18	8	5	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	9	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.966		0.959			
Flt Protected	0.964					0.966
Satd. Flow (prot)	1592	0	1822	0	0	1449
Flt Permitted	0.964					0.966
Satd. Flow (perm)	1592	0	1822	0	0	1449
Link Speed (mph)	25		25			25
Link Distance (ft)	315		169			187
Travel Time (s)	8.6		4.6			5.1
Peak Hour Factor	0.75	0.75	0.61	0.61	0.35	0.35
Heavy Vehicles (%)	0%	0%	0%	0%	20%	0%
Parking (#/hr)	0	0				
Adj. Flow (vph)	3	1	30	13	14	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	0	43	0	0	20
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.14	1.00	1.00	1.00	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	14.5%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

















7: West Dr/Mill Brook Br & Quinn Access Rd

2025 No-Build AM Peak Hour

						
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	2	1	18	8	5	2
Future Volume (Veh/h)	2	1	18	8	5	2
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.75	0.75	0.61	0.61	0.35	0.35
Hourly flow rate (vph)	3	1	30	13	14	6
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	70	36			43	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	70	36			43	
tC, single (s)	6.4	6.2			4.3	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.4	
p0 queue free %	100	100			99	
cM capacity (veh/h)	930	1042			1457	
Direction, Lane #	NW 1	NE 1	SW 1			
Volume Total	4	43	20			
Volume Left	3	0	14			
Volume Right	1	13	0			
cSH	955	1700	1457			
Volume to Capacity	0.00	0.03	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	8.8	0.0	5.3			
Lane LOS	A		A			
Approach Delay (s)	8.8	0.0	5.3			
Approach LOS	A					
Intersection Summary						
Average Delay			2.1			
Intersection Capacity Utilization			14.5%	ICU Level of Service	A	
Analysis Period (min)			15			

















Lanes, Volumes, Timings
8: Forest St & Peirce St/Ryder St

2025 No-Build AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	0	1	9	0	3	3	189	10	11	297	69
Future Volume (vph)	11	0	1	9	0	3	3	189	10	11	297	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	12	12	12	11	11	11
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.988			0.968			0.993			0.975	
Flt Protected		0.957			0.963			0.999			0.999	
Satd. Flow (prot)	0	1737	0	0	1437	0	0	1828	0	0	1769	0
Flt Permitted		0.957			0.963			0.999			0.999	
Satd. Flow (perm)	0	1737	0	0	1437	0	0	1828	0	0	1769	0
Link Speed (mph)		25			25			20			25	
Link Distance (ft)		451			157			336			396	
Travel Time (s)		12.3			4.3			11.5			10.8	
Confl. Peds. (#/hr)	10		13	3			13		3			10
Peak Hour Factor	0.55	0.55	0.55	0.69	0.69	0.69	0.82	0.82	0.82	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	25%	0%	0%	33%	1%	33%	0%	1%	2%
Adj. Flow (vph)	20	0	2	13	0	4	4	230	12	13	345	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	22	0	0	17	0	0	246	0	0	438	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	39.9%											
Analysis Period (min)	15											
	ICU Level of Service A											










HCM Unsignalized Intersection Capacity Analysis 8: Forest St & Peirce St/Ryder St

2025 No-Build AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	0	1	9	0	3	3	189	10	11	297	69
Future Volume (Veh/h)	11	0	1	9	0	3	3	189	10	11	297	69
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.55	0.55	0.55	0.69	0.69	0.69	0.82	0.82	0.82	0.86	0.86	0.86
Hourly flow rate (vph)	20	0	2	13	0	4	4	230	12	13	345	80
Pedestrians		13			3			13			10	
Lane Width (ft)		11.0			11.0			12.0			11.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			1			1	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	682	677	411	673	711	249	438			245		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	682	677	411	673	711	249	438			245		
tC, single (s)	7.1	6.5	6.2	7.3	6.5	6.2	4.4			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.7	4.0	3.3	2.5			2.2		
p0 queue free %	94	100	100	96	100	99	100			99		
cM capacity (veh/h)	350	367	630	326	351	786	964			1329		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	22	17	246	438								
Volume Left	20	13	4	13								
Volume Right	2	4	12	80								
cSH	365	378	964	1329								
Volume to Capacity	0.06	0.04	0.00	0.01								
Queue Length 95th (ft)	5	4	0	1								
Control Delay (s)	15.5	15.0	0.2	0.3								
Lane LOS	C	B	A	A								
Approach Delay (s)	15.5	15.0	0.2	0.3								
Approach LOS	C	B										
Intersection Summary												
Average Delay			1.1									
Intersection Capacity Utilization			39.9%		ICU Level of Service				A			
Analysis Period (min)			15									










Lanes, Volumes, Timings
9: Ryder St & South Dr

2025 No-Build AM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	2	1	8	13	4	10
Future Volume (vph)	2	1	8	13	4	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.949		0.916			
Flt Protected	0.970					0.986
Satd. Flow (prot)	1749	0	1420	0	0	1459
Flt Permitted	0.970					0.986
Satd. Flow (perm)	1749	0	1420	0	0	1459
Link Speed (mph)	25		25			25
Link Distance (ft)	269		157			797
Travel Time (s)	7.3		4.3			21.7
Confl. Peds. (#/hr)	32	32		32	32	
Confl. Bikes (#/hr)				2		
Peak Hour Factor	0.38	0.38	0.71	0.71	0.81	0.81
Heavy Vehicles (%)	0%	0%	14%	8%	0%	22%
Parking (#/hr)			0	0	0	0
Adj. Flow (vph)	5	3	11	18	5	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	8	0	29	0	0	17
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.14	1.00	1.00	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	26.5%			ICU Level of Service A		
Analysis Period (min)	15					

















HCM Unsignalized Intersection Capacity Analysis 9: Ryder St & South Dr

2025 No-Build AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	2	1	8	13	4	10
Future Volume (Veh/h)	2	1	8	13	4	10
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.38	0.38	0.71	0.71	0.81	0.81
Hourly flow rate (vph)	5	3	11	18	5	12
Pedestrians	32		32			32
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	3		3			3
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	106	84			61	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	106	84			61	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	840	922			1508	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	8	29	17			
Volume Left	5	0	5			
Volume Right	3	18	0			
cSH	869	1700	1508			
Volume to Capacity	0.01	0.02	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	9.2	0.0	2.2			
Lane LOS	A		A			
Approach Delay (s)	9.2	0.0	2.2			
Approach LOS	A					
Intersection Summary						
Average Delay			2.1			
Intersection Capacity Utilization			26.5%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings
1: Appleton St & Appleton Pl & Massachusetts Ave

















2025 No-Build PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	467	20	126	351	2	20	1	364	1	1	3
Future Volume (vph)	3	467	20	126	351	2	20	1	364	1	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Grade (%)		0%			0%			-4%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994						0.872			0.925	
Flt Protected					0.987			0.997			0.989	
Satd. Flow (prot)	0	1722	0	0	1701	0	0	1669	0	0	1738	0
Flt Permitted					0.987			0.997			0.989	
Satd. Flow (perm)	0	1722	0	0	1701	0	0	1669	0	0	1738	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		330			357			73			97	
Travel Time (s)		9.0			9.7			2.0			2.6	
Confl. Peds. (#/hr)	21		1	7		27	1		7	27		21
Confl. Bikes (#/hr)			2			2						
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.90	0.90	0.90	0.62	0.62	0.62
Heavy Vehicles (%)	0%	2%	0%	1%	3%	0%	0%	0%	1%	0%	0%	0%
Bus Blockages (#/hr)	8	8	8	8	8	8	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0						
Adj. Flow (vph)	3	502	22	143	399	2	22	1	404	2	2	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	527	0	0	544	0	0	427	0	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	1.10	0.92	0.92	1.10	0.92	0.97	0.97	0.97	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	87.5%						ICU Level of Service E					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis










1: Appleton St & Appleton Pl & Massachusetts Ave

2025 No-Build PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	467	20	126	351	2	20	1	364	1	1	3
Future Volume (Veh/h)	3	467	20	126	351	2	20	1	364	1	1	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			-4%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.90	0.90	0.90	0.62	0.62	0.62
Hourly flow rate (vph)	3	502	22	143	399	2	22	1	404	2	2	5
Pedestrians		21			27			7			27	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			3			1			3	
Right turn flare (veh)												
Median type	None		None									
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	428			531			1239	1240	547	1664	1250	448
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	428			531			1239	1240	547	1664	1250	448
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	100			86			92	100	40	97	99	99
cM capacity (veh/h)	1113			1035			287	286	673	72	283	734
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	527	544	427	9								
Volume Left	3	143	22	2								
Volume Right	22	2	404	5								
cSH	1113	1035	628	217								
Volume to Capacity	0.00	0.14	0.68	0.04								
Queue Length 95th (ft)	0	12	132	3								
Control Delay (s)	0.1	3.6	22.0	22.3								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.1	3.6	22.0	22.3								
Approach LOS			C	C								
Intersection Summary												
Average Delay			7.7									
Intersection Capacity Utilization			87.5%		ICU Level of Service				E			
Analysis Period (min)			15									
* User Entered Value												

Lanes, Volumes, Timings
2: Appleton St & Appleton Pl










2025 No-Build PM Peak Hour

						
Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	3	25	11	136	360	6
Future Volume (vph)	3	25	11	136	360	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	12	12	12
Grade (%)	-4%		0%		-4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.881		0.875		0.998	
Flt Protected	0.994		0.996		0.953	
Satd. Flow (prot)	1641	0	1626	0	1643	0
Flt Permitted	0.994		0.996		0.953	
Satd. Flow (perm)	1641	0	1626	0	1643	0
Link Speed (mph)	25		25		25	
Link Distance (ft)	178		73		363	
Travel Time (s)	4.9		2.0		9.9	
Confl. Peds. (#/hr)	20	18	9	11	11	20
Peak Hour Factor	0.65	0.65	0.84	0.84	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%
Parking (#/hr)					0	0
Adj. Flow (vph)	5	38	13	162	400	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	43	0	175	0	407	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Right
Median Width(ft)	11		12		12	
Link Offset(ft)	0		0		0	
Crosswalk Width(ft)	16		16		16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	1.00	1.00	1.12	0.97
Turning Speed (mph)	15	9	15	9	15	9
Sign Control	Stop		Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	49.3%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

















2: Appleton St & Appleton Pl

2025 No-Build PM Peak Hour

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	3	25	11	136	360	6
Future Volume (Veh/h)	3	25	11	136	360	6
Sign Control	Stop		Free		Stop	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.65	0.65	0.84	0.84	0.90	0.90
Hourly flow rate (vph)	5	38	13	162	400	7
Pedestrians	20		18		20	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type			None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	228	38	20		186	147
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	228	38	20		186	147
tC, single (s)	*5.0	*5.0	4.1		*5.0	*5.0
tC, 2 stage (s)						
tF (s)	*3.0	*3.0	2.2		*3.0	*3.0
p0 queue free %	99	97	99		55	99
cM capacity (veh/h)	918	1117	1581		897	994
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	43	175	407			
Volume Left	0	13	400			
Volume Right	38	162	0			
cSH	1089	1581	899			
Volume to Capacity	0.04	0.01	0.45			
Queue Length 95th (ft)	3	1	60			
Control Delay (s)	8.4	0.6	12.3			
Lane LOS	A	A	B			
Approach Delay (s)	8.4	0.6	12.3			
Approach LOS	A		B			
Intersection Summary						
Average Delay			8.7			
Intersection Capacity Utilization			49.3%	ICU Level of Service		A
Analysis Period (min)			15			
* User Entered Value						

















Lanes, Volumes, Timings
3: Burton St/Forest St & Massachusetts Ave

2025 No-Build PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	221	619	2	3	412	100	1	3	9	42	4	72
Future Volume (vph)	221	619	2	3	412	100	1	3	9	42	4	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.974			0.908			0.918	
Flt Protected		0.987						0.995			0.983	
Satd. Flow (prot)	0	1676	0	0	1800	0	0	1545	0	0	1715	0
Flt Permitted		0.987						0.995			0.983	
Satd. Flow (perm)	0	1676	0	0	1800	0	0	1545	0	0	1715	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		357			87			283			336	
Travel Time (s)		9.7			2.4			7.7			9.2	
Confl. Peds. (#/hr)	19		21			2	19		14	16		21
Confl. Bikes (#/hr)			2			3						1
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.60	0.60	0.60	0.81	0.81	0.81
Heavy Vehicles (%)	3%	9%	0%	0%	3%	2%	0%	0%	0%	0%	0%	0%
Parking (#/hr)	0	0	0				0	0	0			
Adj. Flow (vph)	238	666	2	3	468	114	2	5	15	52	5	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	906	0	0	585	0	0	22	0	0	146	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	1.05	0.92	1.00	1.00	1.00	1.00	1.14	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 97.7%	ICU Level of Service F											
Analysis Period (min) 15												

HCM Unsignalized Intersection Capacity Analysis 3: Burton St/Forest St & Massachusetts Ave

2025 No-Build PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	619	2	3	412	100	1	3	9	42	4	72
Future Volume (Veh/h)	221	619	2	3	412	100	1	3	9	42	4	72
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.60	0.60	0.60	0.81	0.81	0.81
Hourly flow rate (vph)	238	666	2	3	468	114	2	5	15	52	5	89
Pedestrians		21			16			21			19	
Lane Width (ft)		14.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	601			689			1808	1771	704	1726	1715	565
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	601			689			1808	1771	704	1726	1715	565
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	75			100			98	96	97	65	97	86
cM capacity (veh/h)	954			896			119	141	576	148	150	658
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	906	585	22	146								
Volume Left	238	3	2	52								
Volume Right	2	114	15	89								
cSH	954	896	281	281								
Volume to Capacity	0.25	0.00	0.08	0.52								
Queue Length 95th (ft)	25	0	6	70								
Control Delay (s)	5.7	0.1	18.9	30.9								
Lane LOS	A	A	C	D								
Approach Delay (s)	5.7	0.1	18.9	30.9								
Approach LOS			C	D								
Intersection Summary												
Average Delay			6.1									
Intersection Capacity Utilization			97.7%		ICU Level of Service				F			
Analysis Period (min)			15									
* User Entered Value												

Lanes, Volumes, Timings
4: Massachusetts Ave & West Dr

2025 No-Build PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↔	↔		↔	
Traffic Volume (vph)	6	664	498	2	6	17
Future Volume (vph)	6	664	498	2	6	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	14	14	10	10
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.899	
Flt Protected					0.988	
Satd. Flow (prot)	0	1677	1771	0	1575	0
Flt Permitted					0.988	
Satd. Flow (perm)	0	1677	1771	0	1575	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		87	240		169	
Travel Time (s)		2.4	6.5		4.6	
Confl. Peds. (#/hr)					19	19
Confl. Bikes (#/hr)				3		
Peak Hour Factor	0.93	0.93	0.88	0.88	0.64	0.64
Heavy Vehicles (%)	0%	2%	3%	0%	0%	0%
Parking (#/hr)	0	0	0	0		
Adj. Flow (vph)	6	714	566	2	9	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	720	568	0	36	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.14	1.05	0.92	1.09	1.09
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 54.4% ICU Level of Service A

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis 4: Massachusetts Ave & West Dr










2025 No-Build PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	6	664	498	2	6	17
Future Volume (Veh/h)	6	664	498	2	6	17
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.88	0.88	0.64	0.64
Hourly flow rate (vph)	6	714	566	2	9	27
Pedestrians		19	19			
Lane Width (ft)		12.0	14.0			
Walking Speed (ft/s)		3.5	3.5			
Percent Blockage		2	2			
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	568				1312	586
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	568				1312	586
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	99				97	96
cM capacity (veh/h)	1014				310	660
Direction, Lane #	EB 1	WB 1	SW 1			
Volume Total	720	568	36			
Volume Left	6	0	9			
Volume Right	0	2	27			
cSH	1014	1700	515			
Volume to Capacity	0.01	0.33	0.07			
Queue Length 95th (ft)	0	0	6			
Control Delay (s)	0.2	0.0	12.5			
Lane LOS	A		B			
Approach Delay (s)	0.2	0.0	12.5			
Approach LOS			B			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			54.4%	ICU Level of Service		A
Analysis Period (min)			15			
* User Entered Value						

Lanes, Volumes, Timings
5: Pine Ct & Massachusetts Ave

2025 No-Build PM Peak Hour

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	668	3	2	503	1	1
Future Volume (vph)	668	3	2	503	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	14	12	12
Grade (%)	0%			0%	-4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.999				0.932	
Flt Protected					0.976	
Satd. Flow (prot)	1608	0	0	1641	1587	0
Flt Permitted					0.976	
Satd. Flow (perm)	1608	0	0	1641	1587	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	240			134	415	
Travel Time (s)	6.5			3.7	11.3	
Confl. Peds. (#/hr)		8	8		8	8
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.92	0.92	0.90	0.90	0.50	0.50
Heavy Vehicles (%)	2%	0%	3%	0%	0%	0%
Parking (#/hr)	0	0	0	0		
Adj. Flow (vph)	726	3	2	559	2	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	729	0	0	561	4	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.20	1.05	1.05	1.20	1.12	1.12
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	CBD					
Control Type:	Unsignalized					
Intersection Capacity Utilization	51.6%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis










5: Pine Ct & Massachusetts Ave

2025 No-Build PM Peak Hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↱	↘↙	
Traffic Volume (veh/h)	668	3	2	503	1	1
Future Volume (Veh/h)	668	3	2	503	1	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	-4%	
Peak Hour Factor	0.92	0.92	0.90	0.90	0.50	0.50
Hourly flow rate (vph)	726	3	2	559	2	2
Pedestrians	8			8	8	
Lane Width (ft)	14.0			14.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			737		1306	744
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			737		1306	744
tC, single (s)			4.1		*5.0	*5.0
tC, 2 stage (s)						
tF (s)			2.2		*3.0	*3.0
p0 queue free %			100		99	100
cM capacity (veh/h)			858		315	564
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	729	561	4			
Volume Left	0	2	2			
Volume Right	3	0	2			
cSH	1700	858	404			
Volume to Capacity	0.43	0.00	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.1	14.0			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.1	14.0			
Approach LOS			B			
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			51.6%	ICU Level of Service	A	
Analysis Period (min)			15			
* User Entered Value						










Lanes, Volumes, Timings
6: Massachusetts Ave & Quinn Rd

2025 No-Build PM Peak Hour

						
Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	4	662	484	5	13	19
Future Volume (vph)	4	662	484	5	13	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	14	14	14	14
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.999		0.920	
Flt Protected					0.980	
Satd. Flow (prot)	0	1863	1727	0	1775	0
Flt Permitted					0.980	
Satd. Flow (perm)	0	1863	1727	0	1775	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		134	384		203	
Travel Time (s)		3.7	10.5		5.5	
Confl. Peds. (#/hr)	20			21	21	20
Confl. Bikes (#/hr)				7		
Peak Hour Factor	0.98	0.98	0.90	0.90	0.50	0.50
Heavy Vehicles (%)	0%	2%	2%	0%	0%	5%
Parking (#/hr)			6	0		
Adj. Flow (vph)	4	676	538	6	26	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	680	544	0	64	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		14	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.10	0.92	0.92	0.92
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	52.9%			ICU Level of Service A		
Analysis Period (min)	15					










HCM Unsignalized Intersection Capacity Analysis 6: Massachusetts Ave & Quinn Rd

2025 No-Build PM Peak Hour

						
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	4	662	484	5	13	19
Future Volume (Veh/h)	4	662	484	5	13	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.98	0.98	0.90	0.90	0.50	0.50
Hourly flow rate (vph)	4	676	538	6	26	38
Pedestrians		20	21		21	
Lane Width (ft)		12.0	14.0		14.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		2	2		2	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	565				1267	582
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	565				1267	582
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	100				92	94
cM capacity (veh/h)	993				318	647
Direction, Lane #	SE 1	NW 1	SW 1			
Volume Total	680	544	64			
Volume Left	4	0	26			
Volume Right	0	6	38			
cSH	993	1700	455			
Volume to Capacity	0.00	0.32	0.14			
Queue Length 95th (ft)	0	0	12			
Control Delay (s)	0.1	0.0	14.2			
Lane LOS	A		B			
Approach Delay (s)	0.1	0.0	14.2			
Approach LOS			B			
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization			52.9%	ICU Level of Service		A
Analysis Period (min)			15			
* User Entered Value						

Lanes, Volumes, Timings
7: West Dr/Mill Brook Br & Quinn Access Rd










2025 No-Build PM Peak Hour

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	7	0	2	4	0	14
Future Volume (vph)	7	0	2	4	0	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	9	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.905					
Flt Protected	0.950					
Satd. Flow (prot)	1624	0	1720	0	0	1693
Flt Permitted	0.950					
Satd. Flow (perm)	1624	0	1720	0	0	1693
Link Speed (mph)	25	25		25		
Link Distance (ft)	315	169		187		
Travel Time (s)	8.6	4.6		5.1		
Confl. Peds. (#/hr)	2	2	2		2	
Peak Hour Factor	0.58	0.58	0.58	0.58	0.50	0.50
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%
Parking (#/hr)	0	0				
Adj. Flow (vph)	12	0	3	7	0	28
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	10	0	0	28
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12	0		0		
Link Offset(ft)	0	0		0		
Crosswalk Width(ft)	16	16		16		
Two way Left Turn Lane						
Headway Factor	1.14	1.00	1.00	1.00	1.14	1.14
Turning Speed (mph)	15	9	9		15	
Sign Control	Stop	Free		Free		
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 14.6%				ICU Level of Service A		
Analysis Period (min) 15						

HCM Unsignalized Intersection Capacity Analysis
















7: West Dr/Mill Brook Br & Quinn Access Rd

2025 No-Build PM Peak Hour

						
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	7	0	2	4	0	14
Future Volume (Veh/h)	7	0	2	4	0	14
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.58	0.58	0.58	0.58	0.50	0.50
Hourly flow rate (vph)	12	0	3	7	0	28
Pedestrians	2		2			2
Lane Width (ft)	12.0		12.0			9.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	38	10			12	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	38	10			12	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	975	1073			1617	
Direction, Lane #	NW 1	NE 1	SW 1			
Volume Total	12	10	28			
Volume Left	12	0	0			
Volume Right	0	7	0			
cSH	975	1700	1617			
Volume to Capacity	0.01	0.01	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.7	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.7	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay		2.1				
Intersection Capacity Utilization		14.6%		ICU Level of Service		A
Analysis Period (min)		15				

















Lanes, Volumes, Timings
8: Forest St & Peirce St/Ryder St

2025 No-Build PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	1	2	10	1	6	4	301	4	6	99	6
Future Volume (vph)	8	1	2	10	1	6	4	301	4	6	99	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	12	12	12	11	11	11
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.979			0.960			0.998			0.993	
Flt Protected		0.963			0.973			0.999			0.997	
Satd. Flow (prot)	0	1732	0	0	1716	0	0	1870	0	0	1818	0
Flt Permitted		0.963			0.973			0.999			0.997	
Satd. Flow (perm)	0	1732	0	0	1716	0	0	1870	0	0	1818	0
Link Speed (mph)		25			25			20			25	
Link Distance (ft)		451			157			336			396	
Travel Time (s)		12.3			4.3			11.5			10.8	
Confl. Peds. (#/hr)	5		6	2		1	6		2	1		5
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.83	0.83	0.83	0.67	0.25	0.75	0.93	0.93	0.93	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	25%	1%	0%	0%	0%	0%
Adj. Flow (vph)	10	1	2	15	4	8	4	324	4	7	118	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	13	0	0	27	0	0	332	0	0	132	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	29.1%						ICU Level of Service A					
Analysis Period (min)	15											










HCM Unsignalized Intersection Capacity Analysis 8: Forest St & Peirce St/Ryder St

2025 No-Build PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	1	2	10	1	6	4	301	4	6	99	6
Future Volume (Veh/h)	8	1	2	10	1	6	4	301	4	6	99	6
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.83	0.83	0.83	0.67	0.25	0.75	0.93	0.93	0.93	0.84	0.84	0.84
Hourly flow rate (vph)	10	1	2	15	4	8	4	324	4	7	118	7
Pedestrians	6			2			6			5		
Lane Width (ft)	11.0			11.0			12.0			11.0		
Walking Speed (ft/s)	3.5			3.5			3.5			3.5		
Percent Blockage	1			0			1			0		
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	490	480	134	480	481	333	131				330	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	490	480	134	480	481	333	131				330	
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.3				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.4				2.2	
p0 queue free %	98	100	100	97	99	99	100				99	
cM capacity (veh/h)	473	481	911	488	480	709	1317				1239	
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	13	27	332	132								
Volume Left	10	15	4	7								
Volume Right	2	8	4	7								
cSH	511	536	1317	1239								
Volume to Capacity	0.03	0.05	0.00	0.01								
Queue Length 95th (ft)	2	4	0	0								
Control Delay (s)	12.2	12.1	0.1	0.5								
Lane LOS	B	B	A	A								
Approach Delay (s)	12.2	12.1	0.1	0.5								
Approach LOS	B	B										
Intersection Summary												
Average Delay				1.2								
Intersection Capacity Utilization				29.1%	ICU Level of Service				A			
Analysis Period (min)				15								










Lanes, Volumes, Timings
9: Ryder St & South Dr

2025 No-Build PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	10	1	6	4	0	10
Future Volume (vph)	10	1	6	4	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.985		0.944			
Flt Protected	0.957					
Satd. Flow (prot)	1791	0	1464	0	0	1402
Flt Permitted	0.957					
Satd. Flow (perm)	1791	0	1464	0	0	1402
Link Speed (mph)	25		25			25
Link Distance (ft)	269		157			797
Travel Time (s)	7.3		4.3			21.7
Confl. Peds. (#/hr)	6	5		6	5	
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.62	0.62	0.59	0.59	0.42	0.42
Heavy Vehicles (%)	0%	0%	0%	25%	0%	22%
Parking (#/hr)			0	0	0	0
Adj. Flow (vph)	16	2	10	7	0	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	0	17	0	0	24
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.14	1.00	1.00	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	16.7%			ICU Level of Service A		
Analysis Period (min)	15					

















HCM Unsignalized Intersection Capacity Analysis 9: Ryder St & South Dr

2025 No-Build PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	1	6	4	0	10
Future Volume (Veh/h)	10	1	6	4	0	10
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.62	0.62	0.59	0.59	0.42	0.42
Hourly flow rate (vph)	16	2	10	7	0	24
Pedestrians	6		6		5	
Lane Width (ft)	12.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	1		1		0	
Right turn flare (veh)						
Median type			None		None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	50	24	23			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	50	24	23			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	100	100			
cM capacity (veh/h)	954	1047	1596			
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	18	17	24			
Volume Left	16	0	0			
Volume Right	2	7	0			
cSH	963	1700	1596			
Volume to Capacity	0.02	0.01	0.00			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	8.8	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.8	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			2.7			
Intersection Capacity Utilization			16.7%	ICU Level of Service	A	
Analysis Period (min)			15			

Lanes, Volumes, Timings
1: Appleton St & Appleton Pl & Massachusetts Ave

















2025 Build AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	372	51	315	397	0	19	0	177	0	0	0
Future Volume (vph)	0	372	51	315	397	0	19	0	177	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Grade (%)		0%			0%			-4%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.984						0.878				
Flt Protected					0.978			0.995				
Satd. Flow (prot)	0	1581	0	0	1648	0	0	1678	0	0	1863	0
Flt Permitted					0.978			0.995				
Satd. Flow (perm)	0	1581	0	0	1648	0	0	1678	0	0	1863	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		330			357			73			97	
Travel Time (s)		9.0			9.7			2.0			2.6	
Confl. Peds. (#/hr)	109		11	118		215	11		118	215		109
Confl. Bikes (#/hr)			2			1						
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.85	0.85	0.85	0.92	0.92	0.92
Heavy Vehicles (%)	0%	11%	2%	2%	7%	0%	0%	0%	1%	2%	2%	2%
Bus Blockages (#/hr)	8	8	8	8	8	8	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0						
Adj. Flow (vph)	0	496	68	375	473	0	22	0	208	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	564	0	0	848	0	0	230	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	1.10	0.92	0.92	1.10	0.92	0.97	0.97	0.97	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	89.0%											
Analysis Period (min)	15											
ICU Level of Service E												

HCM Unsignalized Intersection Capacity Analysis










1: Appleton St & Appleton Pl & Massachusetts Ave

2025 Build AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	372	51	315	397	0	19	0	177	0	0	0
Future Volume (Veh/h)	0	372	51	315	397	0	19	0	177	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			-4%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.85	0.85	0.85	0.92	0.92	0.92
Hourly flow rate (vph)	0	496	68	375	473	0	22	0	208	0	0	0
Pedestrians		109			215			118			215	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		12			24			11			20	
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	688			682			1980	2086	863	2391	2120	797
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	688			682			1980	2086	863	2391	2120	797
tC, single (s)	4.1			4.1			*4.0	6.5	*3.0	*3.0	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	4.0	*3.0	3.5	4.0	3.3
p0 queue free %	100			54			79	100	62	100	100	100
cM capacity (veh/h)	728			808			107	20	554	69	19	270
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	564	848	230	0								
Volume Left	0	375	22	0								
Volume Right	68	0	208	0								
cSH	728	808	395	1700								
Volume to Capacity	0.00	0.46	0.58	0.01								
Queue Length 95th (ft)	0	62	89	0								
Control Delay (s)	0.0	10.6	26.0	0.0								
Lane LOS		B	D	A								
Approach Delay (s)	0.0	10.6	26.0	0.0								
Approach LOS			D	A								
Intersection Summary												
Average Delay			9.1									
Intersection Capacity Utilization			89.0%	ICU Level of Service					E			
Analysis Period (min)			15									
* User Entered Value												










Lanes, Volumes, Timings
2: Appleton St & Appleton Pl

2025 Build AM Peak Hour

						
Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	39	32	29	337	164	9
Future Volume (vph)	39	32	29	337	164	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	12	12	12
Grade (%)	-4%		0%		-4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.939		0.876		0.993	
Flt Protected	0.973		0.996		0.955	
Satd. Flow (prot)	1657	0	1628	0	1639	0
Flt Permitted	0.973		0.996		0.955	
Satd. Flow (perm)	1657	0	1628	0	1639	0
Link Speed (mph)	25		25		25	
Link Distance (ft)	178		73		363	
Travel Time (s)	4.9		2.0		9.9	
Confl. Peds. (#/hr)	109	91	91	18	18	109
Confl. Bikes (#/hr)						4
Peak Hour Factor	0.38	0.38	0.84	0.84	0.85	0.85
Heavy Vehicles (%)	6%	0%	0%	2%	1%	0%
Parking (#/hr)					0	0
Adj. Flow (vph)	103	84	35	401	193	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	187	0	436	0	204	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Right
Median Width(ft)	11		12		12	
Link Offset(ft)	0		0		0	
Crosswalk Width(ft)	16		16		16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	1.00	1.00	1.12	0.97
Turning Speed (mph)	15	9	15	9	15	9
Sign Control	Stop		Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	60.3%			ICU Level of Service B		
Analysis Period (min)	15					

















HCM Unsignalized Intersection Capacity Analysis 2: Appleton St & Appleton Pl

2025 Build AM Peak Hour

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	39	32	29	337	164	9
Future Volume (Veh/h)	39	32	29	337	164	9
Sign Control	Stop		Free		Stop	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.38	0.38	0.84	0.84	0.85	0.85
Hourly flow rate (vph)	103	84	35	401	193	11
Pedestrians	109		91		109	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	10		9		10	
Right turn flare (veh)						
Median type			None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	689	200	109		606	488
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	689	200	109		606	488
tC, single (s)	*5.0	*5.0	4.1		*5.0	*5.0
tC, 2 stage (s)						
tF (s)	*3.0	*3.0	2.2		*3.0	*3.0
p0 queue free %	78	90	97		43	98
cM capacity (veh/h)	479	816	1352		341	585
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	187	436	204			
Volume Left	0	35	193			
Volume Right	84	401	0			
cSH	588	1352	348			
Volume to Capacity	0.32	0.03	0.59			
Queue Length 95th (ft)	34	2	89			
Control Delay (s)	14.0	0.9	28.9			
Lane LOS	B	A	D			
Approach Delay (s)	14.0	0.9	28.9			
Approach LOS	B		D			
Intersection Summary						
Average Delay			10.8			
Intersection Capacity Utilization			60.3%	ICU Level of Service		B
Analysis Period (min)			15			
* User Entered Value						

Lanes, Volumes, Timings
3: Burton St/Forest St & Massachusetts Ave


2025 Build AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	454	1	10	491	108	0	10	21	72	24	223
Future Volume (vph)	95	454	1	10	491	108	0	10	21	72	24	223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.976			0.909			0.906	
Flt Protected		0.991			0.999						0.989	
Satd. Flow (prot)	0	1674	0	0	1764	0	0	1554	0	0	1668	0
Flt Permitted		0.991			0.999						0.989	
Satd. Flow (perm)	0	1674	0	0	1764	0	0	1554	0	0	1668	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		357			87			283			336	
Travel Time (s)		9.7			2.4			7.7			9.2	
Confl. Peds. (#/hr)	57		56	8		9	56		8	9		57
Confl. Bikes (#/hr)			4			1						
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.44	0.44	0.44	0.89	0.89	0.89
Heavy Vehicles (%)	3%	9%	0%	0%	6%	1%	0%	0%	0%	3%	0%	2%
Parking (#/hr)	0	0	0				0	0	0			
Adj. Flow (vph)	109	522	1	11	564	124	0	23	48	81	27	251
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	632	0	0	699	0	0	71	0	0	359	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	1.05	0.92	1.00	1.00	1.00	1.00	1.14	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	101.0%						ICU Level of Service G					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

3: Burton St/Forest St & Massachusetts Ave

2025 Build AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	95	454	1	10	491	108	0	10	21	72	24	223
Future Volume (Veh/h)	95	454	1	10	491	108	0	10	21	72	24	223
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.44	0.44	0.44	0.89	0.89	0.89
Hourly flow rate (vph)	109	522	1	11	564	124	0	23	48	81	27	251
Pedestrians		57			9			56			57	
Lane Width (ft)		14.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		6			1			5			5	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	745			579			1766	1564	588	1514	1502	740
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	745			579			1766	1564	588	1514	1502	740
tC, single (s)	4.1			4.1			7.1	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	87			99			100	88	92	51	87	51
cM capacity (veh/h)	812			951			22	188	630	167	200	510
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	632	699	71	359								
Volume Left	109	11	0	81								
Volume Right	1	124	48	251								
cSH	812	951	357	322								
Volume to Capacity	0.13	0.01	0.20	1.11								
Queue Length 95th (ft)	12	1	18	353								
Control Delay (s)	3.4	0.3	17.6	120.8								
Lane LOS	A	A	C	F								
Approach Delay (s)	3.4	0.3	17.6	120.8								
Approach LOS			C	F								
Intersection Summary												
Average Delay			26.7									
Intersection Capacity Utilization			101.0%		ICU Level of Service				G			
Analysis Period (min)			15									
* User Entered Value												

Lanes, Volumes, Timings
4: Massachusetts Ave & West Dr

2025 Build AM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↰	↱		↰	↱
Traffic Volume (vph)	20	527	608	7	1	1
Future Volume (vph)	20	527	608	7	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	14	14	10	10
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.932	
Flt Protected		0.998			0.976	
Satd. Flow (prot)	0	1584	1718	0	1613	0
Flt Permitted		0.998			0.976	
Satd. Flow (perm)	0	1584	1718	0	1613	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		87	240		169	
Travel Time (s)		2.4	6.5		4.6	
Confl. Peds. (#/hr)	8			8	8	8
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.87	0.87	0.87	0.87	0.25	0.25
Heavy Vehicles (%)	0%	8%	6%	1%	0%	0%
Parking (#/hr)	0	0	0	0		
Adj. Flow (vph)	23	606	699	8	4	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	629	707	0	8	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.14	1.05	0.92	1.09	1.09
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

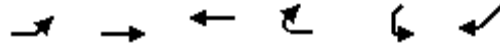
Intersection Capacity Utilization 56.3% ICU Level of Service B




Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis

4: Massachusetts Ave & West Dr

2025 Build AM Peak Hour












Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	20	527	608	7	1	1
Future Volume (Veh/h)	20	527	608	7	1	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.25	0.25
Hourly flow rate (vph)	23	606	699	8	4	4
Pedestrians		8	8		8	
Lane Width (ft)		12.0	14.0		10.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	715				1371	719
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	715				1371	719
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*5.0	*5.0
p0 queue free %	97				98	99
cM capacity (veh/h)	889				230	414
Direction, Lane #	EB 1	WB 1	SW 1			
Volume Total	629	707	8			
Volume Left	23	0	4			
Volume Right	0	8	4			
cSH	889	1700	296			
Volume to Capacity	0.03	0.42	0.03			
Queue Length 95th (ft)	2	0	2			
Control Delay (s)	0.7	0.0	17.5			
Lane LOS	A		C			
Approach Delay (s)	0.7	0.0	17.5			
Approach LOS			C			
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			56.3%	ICU Level of Service		B
Analysis Period (min)			15			

* User Entered Value











Lanes, Volumes, Timings
5: Pine Ct & Massachusetts Ave

2025 Build AM Peak Hour

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	534	2	0	611	1	8
Future Volume (vph)	534	2	0	611	1	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	14	12	12
Grade (%)	0%			0%	-4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.880	
Flt Protected					0.994	
Satd. Flow (prot)	1506	0	0	1563	1526	0
Flt Permitted					0.994	
Satd. Flow (perm)	1506	0	0	1563	1526	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	240			134	415	
Travel Time (s)	6.5			3.7	11.3	
Confl. Peds. (#/hr)		10	10		10	10
Confl. Bikes (#/hr)		3				
Peak Hour Factor	0.85	0.85	0.88	0.88	0.50	0.50
Heavy Vehicles (%)	9%	0%	0%	5%	0%	0%
Parking (#/hr)	0	0	0	0		
Adj. Flow (vph)	628	2	0	694	2	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	630	0	0	694	18	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.20	1.05	1.05	1.20	1.12	1.12
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	CBD					
Control Type:	Unsignalized					
Intersection Capacity Utilization	48.6%			ICU Level of Service A		
Analysis Period (min)	15					










HCM Unsignalized Intersection Capacity Analysis 5: Pine Ct & Massachusetts Ave

2025 Build AM Peak Hour

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	534	2	0	611	1	8
Future Volume (Veh/h)	534	2	0	611	1	8
Sign Control	Free			Free	Stop	
Grade	0%			0%	-4%	
Peak Hour Factor	0.85	0.85	0.88	0.88	0.50	0.50
Hourly flow rate (vph)	628	2	0	694	2	16
Pedestrians	10			10	10	
Lane Width (ft)	14.0			14.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			640	1343		649
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			640	1343		649
tC, single (s)			4.1	*5.0		*5.0
tC, 2 stage (s)						
tF (s)			2.2	*3.0		*3.0
p0 queue free %			100	99		97
cM capacity (veh/h)			945	302		618
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	630	694	18			
Volume Left	0	0	2			
Volume Right	2	0	16			
cSH	1700	945	554			
Volume to Capacity	0.37	0.00	0.03			
Queue Length 95th (ft)	0	0	3			
Control Delay (s)	0.0	0.0	11.7			
Lane LOS			B			
Approach Delay (s)	0.0	0.0	11.7			
Approach LOS			B			
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			48.6%	ICU Level of Service		A
Analysis Period (min)			15			
* User Entered Value						

Lanes, Volumes, Timings
6: Massachusetts Ave & Quinn Rd










2025 Build AM Peak Hour

						
Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	28	513	604	10	7	18
Future Volume (vph)	28	513	604	10	7	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	14	14	14	14
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.902	
Flt Protected		0.997			0.986	
Satd. Flow (prot)	0	1757	1677	0	1636	0
Flt Permitted		0.997			0.986	
Satd. Flow (perm)	0	1757	1677	0	1636	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		134	384		203	
Travel Time (s)		3.7	10.5		5.5	
Confl. Peds. (#/hr)	10			10	10	10
Confl. Bikes (#/hr)				3		
Peak Hour Factor	0.85	0.85	0.88	0.88	0.62	0.62
Heavy Vehicles (%)	4%	8%	5%	0%	0%	14%
Parking (#/hr)			6	0		
Adj. Flow (vph)	33	604	686	11	11	29
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	637	697	0	40	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		14	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.10	0.92	0.92	0.92
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	62.7%			ICU Level of Service B		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis










6: Massachusetts Ave & Quinn Rd

2025 Build AM Peak Hour

						
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	28	513	604	10	7	18
Future Volume (Veh/h)	28	513	604	10	7	18
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.88	0.88	0.62	0.62
Hourly flow rate (vph)	33	604	686	11	11	29
Pedestrians		10	10		10	
Lane Width (ft)		12.0	14.0		14.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		1	1		1	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	707				1382	712
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	707				1382	712
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	96				96	95
cM capacity (veh/h)	872				279	580
Direction, Lane #	SE 1	NW 1	SW 1			
Volume Total	637	697	40			
Volume Left	33	0	11			
Volume Right	0	11	29			
cSH	872	1700	447			
Volume to Capacity	0.04	0.41	0.09			
Queue Length 95th (ft)	3	0	7			
Control Delay (s)	1.0	0.0	13.8			
Lane LOS	A		B			
Approach Delay (s)	1.0	0.0	13.8			
Approach LOS			B			
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			62.7%	ICU Level of Service		B
Analysis Period (min)			15			
* User Entered Value						

Lanes, Volumes, Timings
7: West Dr/Mill Brook Br & Quinn Access Rd










2025 Build AM Peak Hour

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	2	1	17	8	18	0
Future Volume (vph)	2	1	17	8	18	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	9	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.966		0.957			
Flt Protected	0.964					0.950
Satd. Flow (prot)	1592	0	1818	0	0	1354
Flt Permitted	0.964					0.950
Satd. Flow (perm)	1592	0	1818	0	0	1354
Link Speed (mph)	25		25			25
Link Distance (ft)	315		169			187
Travel Time (s)	8.6		4.6			5.1
Peak Hour Factor	0.75	0.75	0.61	0.61	0.35	0.35
Heavy Vehicles (%)	0%	0%	0%	0%	20%	0%
Parking (#/hr)	0	0				
Adj. Flow (vph)	3	1	28	13	51	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	0	41	0	0	51
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.14	1.00	1.00	1.00	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	17.7%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

















7: West Dr/Mill Brook Br & Quinn Access Rd

2025 Build AM Peak Hour

						
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	2	1	17	8	18	0
Future Volume (Veh/h)	2	1	17	8	18	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.75	0.75	0.61	0.61	0.35	0.35
Hourly flow rate (vph)	3	1	28	13	51	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	136	34			41	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	136	34			41	
tC, single (s)	6.4	6.2			4.3	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.4	
p0 queue free %	100	100			97	
cM capacity (veh/h)	832	1044			1460	
Direction, Lane #	NW 1	NE 1	SW 1			
Volume Total	4	41	51			
Volume Left	3	0	51			
Volume Right	1	13	0			
cSH	876	1700	1460			
Volume to Capacity	0.00	0.02	0.03			
Queue Length 95th (ft)	0	0	3			
Control Delay (s)	9.1	0.0	7.6			
Lane LOS	A		A			
Approach Delay (s)	9.1	0.0	7.6			
Approach LOS	A					
Intersection Summary						
Average Delay			4.4			
Intersection Capacity Utilization			17.7%	ICU Level of Service		A
Analysis Period (min)			15			










Lanes, Volumes, Timings
8: Forest St & Peirce St/Ryder St

2025 Build AM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	0	1	18	0	3	3	189	5	10	297	69
Future Volume (vph)	11	0	1	18	0	3	3	189	5	10	297	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	12	12	12	11	11	11
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.988			0.982			0.997			0.975	
Flt Protected		0.957			0.958			0.999			0.999	
Satd. Flow (prot)	0	1737	0	0	1420	0	0	1849	0	0	1769	0
Flt Permitted		0.957			0.958			0.999			0.999	
Satd. Flow (perm)	0	1737	0	0	1420	0	0	1849	0	0	1769	0
Link Speed (mph)		25			25			20			25	
Link Distance (ft)		451			157			336			396	
Travel Time (s)		12.3			4.3			11.5			10.8	
Confl. Peds. (#/hr)	10		13	3			13		3			10
Peak Hour Factor	0.55	0.55	0.55	0.69	0.69	0.69	0.82	0.82	0.82	0.86	0.86	0.86
Heavy Vehicles (%)	0%	0%	0%	25%	0%	0%	33%	1%	33%	0%	1%	2%
Adj. Flow (vph)	20	0	2	26	0	4	4	230	6	12	345	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	22	0	0	30	0	0	240	0	0	437	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	39.3%											
Analysis Period (min)	15											
ICU Level of Service A												

















HCM Unsignalized Intersection Capacity Analysis 9: Ryder St & South Dr

2025 Build AM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	0	8	7	3	10
Future Volume (Veh/h)	11	0	8	7	3	10
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.38	0.38	0.71	0.71	0.81	0.81
Hourly flow rate (vph)	29	0	11	10	4	12
Pedestrians	32		32			32
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	3		3			3
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	100	80			53	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	100	80			53	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	100			100	
cM capacity (veh/h)	847	927			1518	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	29	21	16			
Volume Left	29	0	4			
Volume Right	0	10	0			
cSH	847	1700	1518			
Volume to Capacity	0.03	0.01	0.00			
Queue Length 95th (ft)	3	0	0			
Control Delay (s)	9.4	0.0	1.9			
Lane LOS	A		A			
Approach Delay (s)	9.4	0.0	1.9			
Approach LOS	A					
Intersection Summary						
Average Delay		4.6				
Intersection Capacity Utilization		26.5%		ICU Level of Service		A
Analysis Period (min)		15				

Lanes, Volumes, Timings
1: Appleton St & Appleton Pl & Massachusetts Ave

















2025 Build PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	474	20	126	351	2	20	1	364	1	1	3
Future Volume (vph)	3	474	20	126	351	2	20	1	364	1	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	14	14	14	12	12	12	12	12	12
Grade (%)		0%			0%			-4%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994						0.872			0.925	
Flt Protected					0.987			0.997			0.989	
Satd. Flow (prot)	0	1722	0	0	1701	0	0	1669	0	0	1738	0
Flt Permitted					0.987			0.997			0.989	
Satd. Flow (perm)	0	1722	0	0	1701	0	0	1669	0	0	1738	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		330			357			73			97	
Travel Time (s)		9.0			9.7			2.0			2.6	
Confl. Peds. (#/hr)	21		1	7		27	1		7	27		21
Confl. Bikes (#/hr)			2			2						
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.90	0.90	0.90	0.62	0.62	0.62
Heavy Vehicles (%)	0%	2%	0%	1%	3%	0%	0%	0%	1%	0%	0%	0%
Bus Blockages (#/hr)	8	8	8	8	8	8	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0						
Adj. Flow (vph)	3	510	22	143	399	2	22	1	404	2	2	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	535	0	0	544	0	0	427	0	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	1.10	0.92	0.92	1.10	0.92	0.97	0.97	0.97	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	87.9%						ICU Level of Service E					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis










1: Appleton St & Appleton Pl & Massachusetts Ave

2025 Build PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	474	20	126	351	2	20	1	364	1	1	3
Future Volume (Veh/h)	3	474	20	126	351	2	20	1	364	1	1	3
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			-4%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.90	0.90	0.90	0.62	0.62	0.62
Hourly flow rate (vph)	3	510	22	143	399	2	22	1	404	2	2	5
Pedestrians		21			27			7			27	
Lane Width (ft)		14.0			14.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			3			1			3	
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	428			539			1247	1248	555	1672	1258	448
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	428			539			1247	1248	555	1672	1258	448
tC, single (s)	4.1			4.1			*5.0	*5.0	*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2			2.2			*3.0	*3.0	*3.0	*3.0	*3.0	*3.0
p0 queue free %	100			86			92	100	40	97	99	99
cM capacity (veh/h)	1113			1028			285	283	668	71	280	734
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	535	544	427	9								
Volume Left	3	143	22	2								
Volume Right	22	2	404	5								
cSH	1113	1028	623	213								
Volume to Capacity	0.00	0.14	0.69	0.04								
Queue Length 95th (ft)	0	12	134	3								
Control Delay (s)	0.1	3.6	22.4	22.6								
Lane LOS	A	A	C	C								
Approach Delay (s)	0.1	3.6	22.4	22.6								
Approach LOS			C	C								
Intersection Summary												
Average Delay			7.8									
Intersection Capacity Utilization			87.9%	ICU Level of Service					E			
Analysis Period (min)			15									
* User Entered Value												










Lanes, Volumes, Timings
2: Appleton St & Appleton Pl

2025 Build PM Peak Hour

						
Lane Group	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (vph)	3	25	11	136	360	6
Future Volume (vph)	3	25	11	136	360	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	12	12	12	12
Grade (%)	-4%		0%		-4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.881		0.875		0.998	
Flt Protected	0.994		0.996		0.953	
Satd. Flow (prot)	1641	0	1626	0	1643	0
Flt Permitted	0.994		0.996		0.953	
Satd. Flow (perm)	1641	0	1626	0	1643	0
Link Speed (mph)	25		25		25	
Link Distance (ft)	178		73		363	
Travel Time (s)	4.9		2.0		9.9	
Confl. Peds. (#/hr)	20	18	9	11	11	20
Peak Hour Factor	0.65	0.65	0.84	0.84	0.90	0.90
Heavy Vehicles (%)	0%	0%	0%	2%	1%	0%
Parking (#/hr)					0	0
Adj. Flow (vph)	5	38	13	162	400	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	43	0	175	0	407	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Right
Median Width(ft)	11		12		12	
Link Offset(ft)	0		0		0	
Crosswalk Width(ft)	16		16		16	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	1.00	1.00	1.12	0.97
Turning Speed (mph)	15	9	15	9	15	9
Sign Control	Stop		Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	49.3%			ICU Level of Service A		
Analysis Period (min)	15					

















HCM Unsignalized Intersection Capacity Analysis 2: Appleton St & Appleton Pl

2025 Build PM Peak Hour

						
Movement	WBL	WBR	SBL	SBR	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	3	25	11	136	360	6
Future Volume (Veh/h)	3	25	11	136	360	6
Sign Control	Stop		Free		Stop	
Grade	-4%		0%		-4%	
Peak Hour Factor	0.65	0.65	0.84	0.84	0.90	0.90
Hourly flow rate (vph)	5	38	13	162	400	7
Pedestrians	20		18		20	
Lane Width (ft)	11.0		12.0		12.0	
Walking Speed (ft/s)	3.5		3.5		3.5	
Percent Blockage	2		2		2	
Right turn flare (veh)						
Median type			None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	228	38	20		186	147
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	228	38	20		186	147
tC, single (s)	*5.0	*5.0	4.1		*5.0	*5.0
tC, 2 stage (s)						
tF (s)	*3.0	*3.0	2.2		*3.0	*3.0
p0 queue free %	99	97	99		55	99
cM capacity (veh/h)	918	1117	1581		897	994
Direction, Lane #	WB 1	SB 1	NE 1			
Volume Total	43	175	407			
Volume Left	0	13	400			
Volume Right	38	162	0			
cSH	1089	1581	899			
Volume to Capacity	0.04	0.01	0.45			
Queue Length 95th (ft)	3	1	60			
Control Delay (s)	8.4	0.6	12.3			
Lane LOS	A	A	B			
Approach Delay (s)	8.4	0.6	12.3			
Approach LOS	A		B			
Intersection Summary						
Average Delay			8.7			
Intersection Capacity Utilization			49.3%	ICU Level of Service		A
Analysis Period (min)			15			
* User Entered Value						

















Lanes, Volumes, Timings
3: Burton St/Forest St & Massachusetts Ave

2025 Build PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	631	2	3	406	98	1	3	9	42	4	74
Future Volume (vph)	220	631	2	3	406	98	1	3	9	42	4	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	12	12	12	12	12	12	12	12	12
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.974			0.908			0.917	
Flt Protected		0.987						0.995			0.983	
Satd. Flow (prot)	0	1676	0	0	1800	0	0	1545	0	0	1713	0
Flt Permitted		0.987						0.995			0.983	
Satd. Flow (perm)	0	1676	0	0	1800	0	0	1545	0	0	1713	0
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		357			87			283			336	
Travel Time (s)		9.7			2.4			7.7			9.2	
Confl. Peds. (#/hr)	19		21			2	19		14	16		21
Confl. Bikes (#/hr)			2			3						1
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.60	0.60	0.60	0.81	0.81	0.81
Heavy Vehicles (%)	3%	9%	0%	0%	3%	2%	0%	0%	0%	0%	0%	0%
Parking (#/hr)	0	0	0				0	0	0			
Adj. Flow (vph)	237	678	2	3	461	111	2	5	15	52	5	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	917	0	0	575	0	0	22	0	0	148	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.92	1.05	0.92	1.00	1.00	1.00	1.00	1.14	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	98.0%											
Analysis Period (min)	15											
ICU Level of Service F												

HCM Unsignalized Intersection Capacity Analysis 3: Burton St/Forest St & Massachusetts Ave

2025 Build PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	631	2	3	406	98	1	3	9	42	4	74
Future Volume (Veh/h)	220	631	2	3	406	98	1	3	9	42	4	74
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.88	0.88	0.88	0.60	0.60	0.60	0.81	0.81	0.81
Hourly flow rate (vph)	237	678	2	3	461	111	2	5	15	52	5	91
Pedestrians		21			16			21			19	
Lane Width (ft)		14.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		2			2			2			2	
Right turn flare (veh)												
Median type	None			None								
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	591				701				1811	1771	716	1728
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	591				701				1811	1771	716	1728
tC, single (s)	4.1				4.1				*5.0	*5.0	*5.0	*5.0
tC, 2 stage (s)												
tF (s)	2.2				2.2				*3.0	*3.0	*3.0	*3.0
p0 queue free %	75				100				98	96	97	65
cM capacity (veh/h)	962				887				119	142	569	148
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	917	575	22	148								
Volume Left	237	3	2	52								
Volume Right	2	111	15	91								
cSH	962	887	281	284								
Volume to Capacity	0.25	0.00	0.08	0.52								
Queue Length 95th (ft)	24	0	6	70								
Control Delay (s)	5.6	0.1	18.9	30.7								
Lane LOS	A	A	C	D								
Approach Delay (s)	5.6	0.1	18.9	30.7								
Approach LOS				C	D							
Intersection Summary												
Average Delay				6.1								
Intersection Capacity Utilization				98.0%	ICU Level of Service				F			
Analysis Period (min)				15								
* User Entered Value												

Lanes, Volumes, Timings
4: Massachusetts Ave & West Dr

2025 Build PM Peak Hour



Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations		↰	↱		↰	↱
Traffic Volume (vph)	18	664	498	17	3	9
Future Volume (vph)	18	664	498	17	3	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	14	14	10	10
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.996		0.901	
Flt Protected		0.999			0.987	
Satd. Flow (prot)	0	1676	1765	0	1577	0
Flt Permitted		0.999			0.987	
Satd. Flow (perm)	0	1676	1765	0	1577	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		87	240		169	
Travel Time (s)		2.4	6.5		4.6	
Confl. Peds. (#/hr)					19	19
Confl. Bikes (#/hr)				3		
Peak Hour Factor	0.93	0.93	0.88	0.88	0.64	0.64
Heavy Vehicles (%)	0%	2%	3%	0%	0%	0%
Parking (#/hr)	0	0	0	0		
Adj. Flow (vph)	19	714	566	19	5	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	733	585	0	19	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		10	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.14	1.05	0.92	1.09	1.09
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

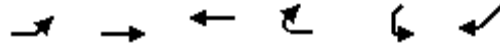
Control Type: Unsignalized




Intersection Capacity Utilization 64.1% ICU Level of Service C

Analysis Period (min) 15

HCM Unsignalized Intersection Capacity Analysis 4: Massachusetts Ave & West Dr

2025 Build PM Peak Hour












Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	18	664	498	17	3	9
Future Volume (Veh/h)	18	664	498	17	3	9
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.93	0.93	0.88	0.88	0.64	0.64
Hourly flow rate (vph)	19	714	566	19	5	14
Pedestrians		19	19			
Lane Width (ft)		12.0	14.0			
Walking Speed (ft/s)		3.5	3.5			
Percent Blockage		2	2			
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	585				1346	594
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	585				1346	594
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	98				98	98
cM capacity (veh/h)	1000				295	654
Direction, Lane #	EB 1	WB 1	SW 1			
Volume Total	733	585	19			
Volume Left	19	0	5			
Volume Right	0	19	14			
cSH	1000	1700	496			
Volume to Capacity	0.02	0.34	0.04			
Queue Length 95th (ft)	1	0	3			
Control Delay (s)	0.5	0.0	12.5			
Lane LOS	A		B			
Approach Delay (s)	0.5	0.0	12.5			
Approach LOS			B			
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			64.1%	ICU Level of Service		C
Analysis Period (min)			15			

* User Entered Value

Lanes, Volumes, Timings
5: Pine Ct & Massachusetts Ave

2025 Build PM Peak Hour

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	668	3	2	518	1	1
Future Volume (vph)	668	3	2	518	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	14	14	14	14	12	12
Grade (%)	0%			0%	-4%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.999				0.932	
Flt Protected					0.976	
Satd. Flow (prot)	1608	0	0	1641	1587	0
Flt Permitted					0.976	
Satd. Flow (perm)	1608	0	0	1641	1587	0
Link Speed (mph)	25			25	25	
Link Distance (ft)	240			134	415	
Travel Time (s)	6.5			3.7	11.3	
Confl. Peds. (#/hr)		8	8		8	8
Confl. Bikes (#/hr)		1				
Peak Hour Factor	0.92	0.92	0.90	0.90	0.50	0.50
Heavy Vehicles (%)	2%	0%	3%	0%	0%	0%
Parking (#/hr)	0	0	0	0		
Adj. Flow (vph)	726	3	2	576	2	2
Shared Lane Traffic (%)						
Lane Group Flow (vph)	729	0	0	578	4	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.20	1.05	1.05	1.20	1.12	1.12
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	CBD					
Control Type:	Unsignalized					
Intersection Capacity Utilization	51.6%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis










5: Pine Ct & Massachusetts Ave

2025 Build PM Peak Hour

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↰	↘↙	
Traffic Volume (veh/h)	668	3	2	518	1	1
Future Volume (Veh/h)	668	3	2	518	1	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	-4%	
Peak Hour Factor	0.92	0.92	0.90	0.90	0.50	0.50
Hourly flow rate (vph)	726	3	2	576	2	2
Pedestrians	8			8	8	
Lane Width (ft)	14.0			14.0	12.0	
Walking Speed (ft/s)	3.5			3.5	3.5	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			737		1324	744
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			737		1324	744
tC, single (s)			4.1		*5.0	*5.0
tC, 2 stage (s)						
tF (s)			2.2		*3.0	*3.0
p0 queue free %			100		99	100
cM capacity (veh/h)			858		309	564
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	729	578	4			
Volume Left	0	2	2			
Volume Right	3	0	2			
cSH	1700	858	399			
Volume to Capacity	0.43	0.00	0.01			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.1	14.1			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.1	14.1			
Approach LOS			B			
Intersection Summary						
Average Delay			0.1			
Intersection Capacity Utilization			51.6%	ICU Level of Service	A	
Analysis Period (min)			15			
* User Entered Value						

Lanes, Volumes, Timings
6: Massachusetts Ave & Quinn Rd










2025 Build PM Peak Hour

						
Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	4	662	499	8	22	19
Future Volume (vph)	4	662	499	8	22	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	14	14	14	14
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.998		0.937	
Flt Protected					0.974	
Satd. Flow (prot)	0	1863	1726	0	1808	0
Flt Permitted					0.974	
Satd. Flow (perm)	0	1863	1726	0	1808	0
Link Speed (mph)		25	25		25	
Link Distance (ft)		134	384		203	
Travel Time (s)		3.7	10.5		5.5	
Confl. Peds. (#/hr)	20			21	21	20
Confl. Bikes (#/hr)				7		
Peak Hour Factor	0.98	0.98	0.90	0.90	0.50	0.50
Heavy Vehicles (%)	0%	2%	2%	0%	0%	5%
Parking (#/hr)			6	0		
Adj. Flow (vph)	4	676	554	9	44	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	680	563	0	82	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		14	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.10	0.92	0.92	0.92
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	52.9%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis










6: Massachusetts Ave & Quinn Rd

2025 Build PM Peak Hour

						
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (veh/h)	4	662	499	8	22	19
Future Volume (Veh/h)	4	662	499	8	22	19
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.98	0.98	0.90	0.90	0.50	0.50
Hourly flow rate (vph)	4	676	554	9	44	38
Pedestrians		20	21		21	
Lane Width (ft)		12.0	14.0		14.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		2	2		2	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	584				1284	600
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	584				1284	600
tC, single (s)	4.1				*5.0	*5.0
tC, 2 stage (s)						
tF (s)	2.2				*3.0	*3.0
p0 queue free %	100				86	94
cM capacity (veh/h)	977				312	635
Direction, Lane #	SE 1	NW 1	SW 1			
Volume Total	680	563	82			
Volume Left	4	0	44			
Volume Right	0	9	38			
cSH	977	1700	408			
Volume to Capacity	0.00	0.33	0.20			
Queue Length 95th (ft)	0	0	19			
Control Delay (s)	0.1	0.0	16.0			
Lane LOS	A		C			
Approach Delay (s)	0.1	0.0	16.0			
Approach LOS			C			
Intersection Summary						
Average Delay		1.0				
Intersection Capacity Utilization		52.9%	ICU Level of Service	A		
Analysis Period (min)		15				
* User Entered Value						










Lanes, Volumes, Timings
7: West Dr/Mill Brook Br & Quinn Access Rd

2025 Build PM Peak Hour

						
Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	7	2	29	3	9	3
Future Volume (vph)	7	2	29	3	9	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	9	9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.973		0.988			
Flt Protected	0.962					0.964
Satd. Flow (prot)	1601	0	1877	0	0	1644
Flt Permitted	0.962					0.964
Satd. Flow (perm)	1601	0	1877	0	0	1644
Link Speed (mph)	25		25			25
Link Distance (ft)	315		169			187
Travel Time (s)	8.6		4.6			5.1
Confl. Peds. (#/hr)	2	2		2	2	
Peak Hour Factor	0.58	0.58	0.58	0.58	0.50	0.50
Heavy Vehicles (%)	0%	0%	0%	0%	0%	1%
Parking (#/hr)	0	0				
Adj. Flow (vph)	12	3	50	5	18	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	15	0	55	0	0	24
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.14	1.00	1.00	1.00	1.14	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	18.0%			ICU Level of Service A		
Analysis Period (min)	15					

















HCM Unsignalized Intersection Capacity Analysis 7: West Dr/Mill Brook Br & Quinn Access Rd

2025 Build PM Peak Hour

						
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (veh/h)	7	2	29	3	9	3
Future Volume (Veh/h)	7	2	29	3	9	3
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.58	0.58	0.58	0.58	0.50	0.50
Hourly flow rate (vph)	12	3	50	5	18	6
Pedestrians	2		2			2
Lane Width (ft)	12.0		12.0			9.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	98	56			57	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	98	56			57	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			99	
cM capacity (veh/h)	891	1012			1557	
Direction, Lane #	NW 1	NE 1	SW 1			
Volume Total	15	55	24			
Volume Left	12	0	18			
Volume Right	3	5	0			
cSH	913	1700	1557			
Volume to Capacity	0.02	0.03	0.01			
Queue Length 95th (ft)	1	0	1			
Control Delay (s)	9.0	0.0	5.5			
Lane LOS	A		A			
Approach Delay (s)	9.0	0.0	5.5			
Approach LOS	A					
Intersection Summary						
Average Delay			2.8			
Intersection Capacity Utilization			18.0%	ICU Level of Service		A
Analysis Period (min)			15			

















Lanes, Volumes, Timings
8: Forest St & Peirce St/Ryder St

2025 Build PM Peak Hour

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	1	2	12	1	3	4	299	3	6	99	1
Future Volume (vph)	8	1	2	12	1	3	4	299	3	6	99	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11	12	12	12	11	11	11
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.979			0.979			0.999			0.999	
Flt Protected		0.963			0.967			0.999			0.997	
Satd. Flow (prot)	0	1732	0	0	1739	0	0	1872	0	0	1829	0
Flt Permitted		0.963			0.967			0.999			0.997	
Satd. Flow (perm)	0	1732	0	0	1739	0	0	1872	0	0	1829	0
Link Speed (mph)		25			25			20			25	
Link Distance (ft)		451			157			336			396	
Travel Time (s)		12.3			4.3			11.5			10.8	
Confl. Peds. (#/hr)	5		6	2		1	6		2	1		5
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.83	0.83	0.83	0.67	0.25	0.75	0.93	0.93	0.93	0.84	0.84	0.84
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	25%	1%	0%	0%	0%	0%
Adj. Flow (vph)	10	1	2	18	4	4	4	322	3	7	118	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	13	0	0	26	0	0	329	0	0	126	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.04	1.04	1.04	1.04	1.04	1.04	1.00	1.00	1.00	1.04	1.04	1.04
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	28.9%						ICU Level of Service A					
Analysis Period (min)	15											










HCM Unsignalized Intersection Capacity Analysis 8: Forest St & Peirce St/Ryder St

2025 Build PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	1	2	12	1	3	4	299	3	6	99	1
Future Volume (Veh/h)	8	1	2	12	1	3	4	299	3	6	99	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.83	0.83	0.83	0.67	0.25	0.75	0.93	0.93	0.93	0.84	0.84	0.84
Hourly flow rate (vph)	10	1	2	18	4	4	4	322	3	7	118	1
Pedestrians		6			2			6			5	
Lane Width (ft)		11.0			11.0			12.0			11.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			0			1			0	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	481	474	130	474	472	330	125			327		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	481	474	130	474	472	330	125			327		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.3			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.4			2.2		
p0 queue free %	98	100	100	96	99	99	100			99		
cM capacity (veh/h)	482	485	914	492	485	711	1324			1242		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	13	26	329	126								
Volume Left	10	18	4	7								
Volume Right	2	4	3	1								
cSH	520	515	1324	1242								
Volume to Capacity	0.02	0.05	0.00	0.01								
Queue Length 95th (ft)	2	4	0	0								
Control Delay (s)	12.1	12.4	0.1	0.5								
Lane LOS	B	B	A	A								
Approach Delay (s)	12.1	12.4	0.1	0.5								
Approach LOS	B	B										
Intersection Summary												
Average Delay			1.2									
Intersection Capacity Utilization			28.9%		ICU Level of Service					A		
Analysis Period (min)			15									










Lanes, Volumes, Timings
9: Ryder St & South Dr

2025 Build PM Peak Hour

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	11	1	6	3	0	10
Future Volume (vph)	11	1	6	3	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.986		0.955			
Flt Protected	0.957					
Satd. Flow (prot)	1793	0	1507	0	0	1402
Flt Permitted	0.957					
Satd. Flow (perm)	1793	0	1507	0	0	1402
Link Speed (mph)	25		25			25
Link Distance (ft)	269		157			797
Travel Time (s)	7.3		4.3			21.7
Confl. Peds. (#/hr)	6	5		6	5	
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.62	0.62	0.59	0.59	0.42	0.42
Heavy Vehicles (%)	0%	0%	0%	25%	0%	22%
Parking (#/hr)			0	0	0	0
Adj. Flow (vph)	18	2	10	5	0	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	20	0	15	0	0	24
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		0			0
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.14	1.00	1.00	1.14
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	16.7%			ICU Level of Service A		
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis 9: Ryder St & South Dr

2025 Build PM Peak Hour

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	1	6	3	0	10
Future Volume (Veh/h)	11	1	6	3	0	10
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.62	0.62	0.59	0.59	0.42	0.42
Hourly flow rate (vph)	18	2	10	5	0	24
Pedestrians	6		6			5
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	3.5		3.5			3.5
Percent Blockage	1		1			0
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	48	24			21	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	48	24			21	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	100			100	
cM capacity (veh/h)	955	1048			1599	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	20	15	24			
Volume Left	18	0	0			
Volume Right	2	5	0			
cSH	964	1700	1599			
Volume to Capacity	0.02	0.01	0.00			
Queue Length 95th (ft)	2	0	0			
Control Delay (s)	8.8	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.8	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay		3.0				
Intersection Capacity Utilization		16.7%		ICU Level of Service	A	
Analysis Period (min)		15				



Massachusetts Housing Finance Agency
One Beacon Street, Boston, MA 02108

Tel: 617.854.1000
Fax: 617.854.1091 | www.masshousing.com

Videophone: 857.366.4157 or Relay: 711

July 28, 2020

John V. Hurd, Chair
Select Board
Town of Arlington
730 Massachusetts Avenue
Arlington, MA 02476

RE: **Proposed 40B—1165R Massachusetts Avenue
Arlington, MA**


Dear Mr. Hurd:

As you know, MassHousing is currently reviewing an application for Site Approval submitted by 1165R Massachusetts Avenue, LLC (the Applicant) for the above-captioned proposed 40B development in Arlington, MA.

Please be advised that the original town comment period has been extended with a deadline of September 7, 2020.

If you have any questions, please do not hesitate to email me at jmalcolm@masshousing.com or call me at 978-908-8683.

Sincerely,


Jessica L. Malcolm
Manager
Planning and Programs



Town of Arlington, Massachusetts

Meeting Minutes (7/6)

Summary:

8:15 p.m. Board members will review and approve meeting minutes.

ATTACHMENTS:

Type	File Name	Description
▢ Reference Material	07062020_Draft_ARB_Minutes.pdf	07062020 Draft ARB Minutes

Arlington Redevelopment Board
Monday, July 6, 2020, 7:00 PM
Meeting Conducted Remotely via Zoom
Meeting Minutes

This meeting was recorded by ACMi.

PRESENT: Andrew Bunnell (Chair), Kin Lau, Eugene Benson, David Watson, Rachel Zsebery

STAFF: Jennifer Raitt, Director of Planning and Community Development, and Erin Zwirko, Assistant Director

The Chair called the meeting to order and notified all attending that the meeting is being recorded by ACMi.

The Chair explained that this meeting is being held remotely in accordance with the Governor's March 12, 2020 order suspending certain provisions of the Open Meeting Law G.L. c. 30A, Section 20. This order from Governor Baker allows for meetings to be held remotely during this time to avoid public gatherings.

The Chair asked if anyone would like to speak to please use the raise hand function and the Chair will allow time to speak during the Open Forum portion of the meeting. The Chair said that going forward speakers will be unmuted and may be on video if they like. Comments will be limited to 3 minutes per person due to the length of the agenda for this evening.

The Chair introduced the first agenda item, the Continued Public Hearings for Docket #3602, 1207-1211 Mass Ave Hotel Lexington. The chair introduced Mary Winstanley O'Connor, Counsel for the applicant. Ms. Winstanley O'Connor reviewed the updated documents requested by the Board which includes: plans for step backs, parking, traffic impact report and study, the shadow study from Lincoln Architects, easement for public access, any possible contamination due to underground storage tanks and remediation. The Chair turned the floor to the Board for questions. Mr. Benson asked about the parking behind the building and if restaurant patrons would be able to use that parking area. Ms. Winstanley O'Connor said that the rear parking would not be available to restaurant patrons, it is exclusively valet parking for the hotel's overnight guests. Mr. Benson asked where tour buses will drop off passengers and where will the tour buses park. Jim Doherty said that tour buses will unload at the front of the hotel, under the carport at the front entrance. Mr. Doherty said that the buses will park off of Route 128 in Lexington at the junction of Route 2 and 128 at an overnight parking area. Mr. Benson asked how Ms. Winstanley O'Connor calculated the gross floor area. Mr. Doherty said that the dimensions were included with the packet for this meeting in order to have the floor areas calculation. Ms. Winstanley O'Connor said that the calculation will be provided in writing to the Board. Mr. Benson asked Ms. Winstanley O'Connor for a citation to the bylaw that allows the ARB to adjust step-backs. Mr. Benson asked Ms. Winstanley O'Connor to explain why the hotel is not required to meet the R2 zone requirement set-backs on Clark Street. Ms. Winstanley O'Connor explained that the mixed-use bylaw provides that there is no side yard set-back. Mr. Benson said that the Board should discuss the easement with Town Counsel to determine which entity in Town would be best to grant an easement for the public access space. Mr. Benson said that, similar to the naming, the easement should be discussed with the Select Board. The Chair asked Ms. Raitt to address some of Mr. Benson's questions. Ms. Raitt said that the Select Board would accept a permanent easement and then it would go to Town Meeting. Ms. Raitt said a Special Permit condition to grant the easement to the Town would still have to go through the Select Board and then Town Meeting. Ms. Raitt said that the alternative is that this is used as an agreement that the space is used at public space and an agreement on the hours of use. Ms. Raitt said that Select Board and the Memorials Committee would be able to assist with naming the space and ultimately the Board would not be the entity to assist with these issues. Mr. Watson said he shares Mr. Benson's concern about the step-back on the upper stories in addition to set-backs around the perimeter of the property. Mr. Benson the economic viability of the project by reducing gross floor area is not a winning argument in this situation. Mr. Watson said he would like to suggest to the Board to ask the Transportation Advisory Committee to review the new traffic data and let the Board know if they have any thoughts. Mr.

Watson said that there is significant traffic coming from Lowell Street so that should be included in the traffic study data. Mr. Watson feels that the low temperatures at the time of the count would lead to lower pedestrian and bicyclist numbers. Mr. Watson said he would like additional information regarding the rear parking slopes. Mr. Doherty said that there is an extremely shallow slope in that area. Mr. Doherty said he would follow up with more details regarding the slope. Mr. Watson said he is concerned about visibility on Clark Street with traffic entering and exiting. Ms. Raitt said that a review by TAC and or the Transportation Planner could be completed by the next meeting on July 20th. Ms. Zsembery said she would like confirmation that trucks will be able to back into and navigate the driveway without driving onto the sidewalks. Ms. Zsembery said she would like to know more about the potential left turn only signage at Clark Street driveway exit to prevent increased traffic into the residential area. Ms. Zsembery said she would like to see the calculation for the open space requirement. Ms. Zsembery said she has some design suggestions to send to Ms. Raitt to forward to Ms. Winstanley O'Connor. Ms. Raitt said that she now has the physical samples package to share with the Board. Mr. Lau said that he would like elevations to show the scale of the hotel in relation to the neighboring buildings. Mr. Lau said that he prefers the light color option on the façade to the darker color with the defined grid. Mr. Lau asked that the engineer reexamine the driveway ramp slope. Mr. Lau said that he expected more plans for the public gathering space and entry to the hotel for a better idea of what activities could be held in that area. The Chair asked for the Department to provide a shadow study since the current shadow studies are conflicting. The Chair would like to make sure the homes on Pierce Street are not impacted. The Chair opened the floor to public comment.

Adam Darlow 6 Clark Street across from the proposed hotel concerned about parking, the slope of the driveway and how that impacts how trucks turn on Clark Street. Mr. Darlow said he is also concerned about visibility for those exiting and turning radius of delivery trucks using the Clark Street driveway. Mr. Darlow said that he does not feel that the left turn only sign will not be practical and the hotel valets may break that rule instead of turning onto Mass. Ave.

Don Seltzer presented slides with the slope at the Clark Street sidewalk. Mr. Seltzer said the 20 foot driveway had a 10% grade. Mr. Seltzer said that he has concerns about the buffer strip, privacy fence, handicapped parking space location, and the size of the garage openings.

Ben Rudick 40 Webcowet Road is excited to see a business that will contribute to the Town's commercial tax base.

Ann Leroyer parking and traffic study TAC and Bicycle committee look at the problematic corridor and the addition of more development in the area. Ms. Leroyer said that there is no mention of children in these studies, with the location of the schools in the area, Ms. Leroyer said that that the pedestrian and bicycle needs in the area have not been addressed. Ms. Leroyer said she has concerns about handicapped parking, parking on Mass. Ave. in front of the hotel, and if the existing trees on the plans will be saved.

Carl Wagner 30 Edgehill hopes the applicants will continue to work with the Board to work on issues including, set-backs, frontage on Clark Street, parking, size of the building. Mr. Wagner said he would like the applicants to work better with the residents in the neighborhood. Mr. Wagner does not believe that Ms. Winstanley O'Connor as a member of the Board of Assessors should not be representing the applicant.

Chris Lorette said that hotels are classified as residential use and hotels are not allowed in B2 zones. Mr. Lorette said that Town Counsel is not the person to provide guidance since Town Counsel represents the Select Board, who is the seller. Mr. Lorette has concerns about areas considered landscaped, set-backs on Clark Street, the step-back, calculation of the floor area, and the easement.

Tara Bradley 28 Clark Street wanted to note that the gentleman supporting the project lives in East Arlington. Ms. Bradley

asked about the contingency plan for parking if valets are out sick or short staffed. Mr. Doherty said that every team member at a hotel has a critical function and the operation is run by professionals so Mr. Doherty said that he does not see that as being a problem.

Barbara Thornton said that she is excited by this project and hopes it will help Arlington Heights become a vibrant area and contribute to the Town's commercial tax base.

Ara Ulman 12 Whittemore St. opposed to this project, concerned about conflict of interest, feels it is too small a space and too large a building, insufficient parking, wrong zoning and inappropriate use.

Andrea Dwyer 26 Pierce Street directly behind the property. Said she would like to see further shadow studies, desire for additional elevations and see the scope of the building among the existing structures.

Lisa Hynes 14 Sunset Road said she agrees with neighbors in supporting the Board with Traffic study and additional elevations. Ms. Hynes said she does support the addition to the Town's commercial tax base and would like to see the public easement extended both in number of days and duration it is accessible.

Marina Darlow 6 Clark St. said she is happy Arlington is getting a new commercial vehicle to increase the tax base. Ms. Darlow said as one of the most impacted residents she has concerns about parking, the number of parking spots, would like to see the traffic study because she believes there will be much more car traffic. Ms. Darlow would like to see details about construction to know more about the developer's plans to make the construction tolerable for the neighbors.

James Rossi at 3234 Pierce St. said he appreciates the steps the Board has taken so far. Mr. Rossi said the neighbors were promised a modest boutique hotel seems like the developer is trying to maximize the space. Mr. Rossi asked how the Board's established rules will be enforced if the hotel is approved. The Chair said that the Special Permit will have general and specific conditions which must be upheld in order to hold the permit in place. The Chair said a Zoning Board officer will enforce the Special Permit requirements and set fines if necessary. If the Board is notified that the requirements are still not being upheld the Board can move to revoke the Special Permit.

Joanne Preston 42 Mystic Lake Drive said she would like to recommend that this goes before the TAC advisory committee because it requires their attention. Ms. Preston commuted to the Ottoson School and she said that there is a good deal of traffic. There are over 1000 students and staff traveling there regularly, concerned about pedestrian safety.

Steve Revilak 111 Sunnyside Ave. said he thinks this hotel is a good commercial project and would like the Board to continue to work with the applicant to move this project forward.

The Chair said that the Board would like to address the following issues at the continued hearing: the independent shadow study, transportation plan, parking study, proper elevations, answers to driveway slope question, review the easement conversations with Town Counsel. Ms. Raitt added the following issues to discuss at the next meeting: gross floor area and open area calculations, set-backs are compliant, balcony railing changes, materials tied to building elevations, signage regarding traffic exiting Clark Street, turning radius, elevation cut through for the driveway entry, handicapped parking, and the plan for the trees on the property.

Mr. Benson would like the traffic study to include a right turn and left turn only options from the drop off area looked at. Mr. Benson said that an outside independent expert to conduct the shadow study and that the set-back on Clark Street and step-backs cannot be changed by the Board.

Mr. Doherty said that the Board has asked over the last few hearings to spend tens of thousands of dollars to look at the set-backs and step-backs then to bring up the issues again. Mr. Doherty said that he thinks that that this request is unrealistic. Mr. Doherty said that this building has identical step-backs as 117 Broadway and that project got bonus space. Mr. Doherty said he was trying to bring a property that would contribute to the Town's commercial tax base. Mr. Doherty asked to be given consistent direction from meeting to meeting so they can move forward.

The Chair proposed continuing this hearing Docket #3602 until the August 17, 2020 meeting. Mr. Benson moved to continue the meeting on August 17, 2020 and Mr. Lau seconded, approved 5-0.

The Chair introduced the second agenda item, the continued public hearing for Docket #3625, 882-892 Mass Ave. Bob Annese said that meeting with Mr. Lau was very helpful and the team has come up with a new proposal. Mr. Annese said that this is a B2 zone and they are proposing to demolish the existing one-story storefronts and build 21 one-bedroom residential units and 1,300 square feet of commercial space. Mr. Annese said that there is a better commercial environment on Mass. Ave. so now the commercial property fronts on Mass. Ave. and access to the residential property will be on Lockland Ave. This site is contaminated already spend ¼ million on soil issues and expect to spend an additional million on remediation. Mr. Annese has a title evaluation and there is no proposal by the town or MBTA to enlarge the sidewalk, Mr. Annese proposes moving the building back 2 feet to allow more room for the bus shelter. There will be 25 parking spaces which complies with the parking requirements. Mr. Annese said set-back relief is needed for this project on the 4th story because the building is being moved back 2 feet. Mr. Annese said that the Board has the ability to vary that set-back. Open space proposed is 60 feet of usable open space, the landscaped open space is twice of what it should be. John Murphy from Summit Real Estate Co. said they took the feedback from the last meeting and came up with a new plan. Asking for relief for the top story step-back to make sure the top floor apartments are big enough. The building will include 3 affordable housing units, additional greenspace, and would like to incorporate solar. Aaron Mackie, Civil Engineer, from Alan and Major Associates gave an overview of the site and plans. Set-backs meet the requirements for a mix-use B2 zoning. 2083 square feet of impervious surface will be replaced by landscaping, will be requesting a reduction for usable open space. Mr. Mackie said they are proposing 10 exterior bicycle parking spaces. The site drainage plan meets the Mass. Stormwater standards. Adam Wagner Market Square Architects introduced himself and reviewed the architectural plans for this project including materials, plans for 34 bicycle parking spaces in the basement, elevations with neighboring buildings for scale, shadow studies, and photographic renderings of the proposed building. The Chair asked about the changes to the commercial space. Mr. Annese said that the commercial space has been doubled with this proposal, the space that fronts on Mass. Ave. is all commercial. John Murphy said that financial lenders will only base lending off of residential space since the commercial/retail space is not being taken into consideration when securing financing. Mr. Lau said he would like to minimize the signage on the front of building and add more windows in the retail/commercial section, elevate the cornice to have more of a sign band opportunity for the retail businesses. Ms. Zsembery said she is disappointed with the quantity of the retail space being provided on the first floor, the small size of the commercial space will make the space difficult to lease. Ms. Zsembery said a review of the materials and the façade should include more windows on the retail level and providing a sign band. Ms. Zsembery said that the overall façade does seem flat. Mr. Watson said he agrees with Ms. Zsembery regarding the retail space and does not feel that the commercial space looks inviting. Mr. Watson said he would like to see going forward more detail regarding the bike racks and layout within the space. Mr. Watson asked if there would be any additional requirements to enable the space to be used for food service. Mr. Mackie said that a grease trap would have to be installed before the sewer running to Mass. Ave. Ms. Zsembery said roof exhaust would also be required. Mr. Lau asked if additional relief could be granted to allow for larger retail space. Ms. Raitt said that an additional story may not

work with project but she said that she is happy to investigate it. Ms. Raitt said other scenarios should be explored that the applicant should devise a plan to address these issues. Mr. Annese said that the retail spaces on Mass. Ave. have had difficulty with vacancies the client has to come up with financing to make this project happen. Mr. Murphy said in order to get the financing to deal with the environmental issue the additional housing units have to be included. Mr. Watson said that he is not sure that the plans meet the mixed-use requirements. Mr. Annese said that he would like the Board to look at the requirement that applicants have to go in front of the ZBA for variance for open space after working with the Board. Mr. Watson said that he is willing to continue to work with the proponents. Mr. Benson said he does not have a problem with the amount of commercial/retail space especially if the floor plan is flexible. Mr. Benson said that the roof exhaust vent should be included in the plans in case a restaurant would like to lease the retail space. Mr. Benson would like to see a higher LEED score for silver certification and at least one electric car charging station in the parking lot. Mr. Benson said he would be comfortable giving the set-back on Lockland Ave. as long as the applicant does not exceed the existing non-conformance on Lockland. Mr. Benson said he does not believe that the ARB has the authority to waive the 4th story step-back according to the bylaw.

The Chair opened the floor for public comment. Ben Rudick 40 Webcowet Rd. was sad to see Toraya sushi restaurant go. As a member of Arlington neighbors for more neighbors it is wonderful to see housing being proposed, especially smaller units on Mass. Ave. near a bus stop. Mr. Rudick said he is excited to see this project get built, hopes the Board can resolve the issues around the mixed-use intention of the area, allow other variances that allow mixed-use without eating into the residential area. Mr. Rudick said more housing of all types is needed in this area.

Christian Klein 54 Newport Street was happy to see some of the proposed changes including: the buffer around the bike shelter and the space around the side walk, long term bicycle parking, short term parking at the front of the building. Mr. Klein said he would like to see more vertical greenery or climbing plants to soften that edge. Commercial spaces are very shallow which might be a problem attracting tenants and there is no buffer between the residential units facing the parking lot on the first floor. Mr. Klein asked if the project would still be viable to allow the commercial space on the first floor to go full depth. Mr. Klein asked if excavation for hazard mitigation would allow for ground source heat pumps and option if already digging up the site. Mr. Klein said usable open space is supposed to be 20% and currently the proposed building has zero usable open space. Mr. Klein asked if leveling the site allows the owners to maintain the pre-existing usable open space non-conformity. The Chair said he would take the usable open space non-conformity into consideration as the Board works with the applicant.

Carl Wagner 30 Edhill Rd. said he feels like the proposed building looks like it looks in a city, not a Town. The size of the building makes the building across the street look small by comparison. Mr. Wagner said the Board should uphold the rules of the B2 zone for businesses that support the neighborhood. Mr. Wagner said Town Meeting voted for the mixed-use building bylaw in 2016 and now feels that this is a misuse of the mixed-use law with. Mr. Wagner said that Town has to look at the mixed-use law or substantially change it. Mr. Wagner said that perhaps the building should be three floors would help with the problems with parking and the ridiculous size.

Don Seltzer reviewed the slides he submitted for the meeting. Mr. Seltzer said that the rear parking lot is undersized and does not meet the bylaw dimensions. Mr. Seltzer said that a three story apartment building with first floor retail/commercial space would fit this space. Mr. Seltzer said that he feels that is what the bylaw was intending.

Aaron Hollman 12 Whittemore Street said that this is an inappropriate use of the mixed business district, not intended to do

a wholesale conversion to change a business district into all residential leaving only a token amount of business. Mr. Hollman said that this is not what the bylaw intended. The problem is the removal of the 2,500 square feet per unit that is typical of residential Arlington. The business use should be expanded to include the entire first floor, too many of the units in Arlington are already too small. Arlington needs larger spaces like Punjab and Acitron did by expanding into multiple spaces. Mr. Hollman said he would like the Board to ask the applicant to create more business space. Mr. Hollman said he is seeing a lot of hearings with applicants are pushing the limits and just because the Board has jurisdiction to waive certain requirements does not mean that they have to do so and continually push the limits of zoning.

Barbara Thornton said that she remembers when the Seaport District was being developed and it took 25 years to be developed and would not like to see that happen in Arlington. Ms. Thornton said that she would like to see the property developed and would like to see a 5 or 6 story building. Ms. Thornton said that due to the current economy the Town should take advantage of this offer because Arlington may not receive many offers for development much longer.

Steve Revilak is glad to see the proposal that adds housing, particularly small units on a public transit stop. Mr. Revilak said that he is happy to see a proposal that triggers our exclusionary housing bylaw and adds to our subsidized housing inventory. Mr. Revilak asked about the environmental conditions on the site, he asked if the owner would have to remediate the site regardless. Mr. Revilak asked what the possible alternatives for the site would be if this proposal does not go forward. Mr. Murphy said that as soon as the environmental issues are flagged they are required to take the building down to take care of the issue or face fines. Mr. Murphy said this proposal is the only plan that makes sense financially. Mr. Murphy said that otherwise they would have to wait for another opportunity. Mr. Revilak said then basically a hole in the ground and Mr. Murphy said yes.

Pam Hallett, Executive Director of Housing Corporation of Arlington, said that on her waitlist of roughly 400 households the major demand is for one and two bedroom housing units. Ms. Hallett said the one bedrooms make so much sense right on Mass. Ave. by the bus stop. The units are great for young people, couples, or singles that are downsizing. If the building is less than 60 feet tall why could they not do a 5th floor that would provide a few additional units. Ms. Hallett said we definitely need the affordable housing piece and hope this moves forward.

JoAnne Preston said she would like to remind people that the Chair of the Finance Committee said that the greatest problem in Arlington in terms of the tax rate is the low ratio of commercial property compared to residential. Ms. Preston said mixed-use was supposed to be mixed-use and this just does not do that. A lot of people are in need of taxes because they cannot afford the taxes in Town. Ms. Preston said she does not support having such a small commercial space that is hard to rent out, will need the whole first floor if this is going to be a true mixed-use building.

Mr. Lau moved to continue this hearing on Monday, July 20, 2020 at 7:00 PM, Ms. Zsemary seconded, approved 5-0.

The Chair introduced the next agenda item, Discussion: Thorndike Place Comprehensive Permit. Ms. Raitt gave an overview of the project, which is a M.G.L. c. 40B project and does not fall under the Board's purview. Ms. Raitt said that the plans will go before the ZBA again at their next hearing with feedback from the Board. The plans will also be reviewed by the Conservation Commission. Mr. Benson suggested lowering the AMI percentage for the affordable units to 70% to match the Town bylaw. Ms. Zsemary said that there is a lot of opportunity regarding the building design. Ms. Raitt asked Ms. Zsemary to submit specific guidance to improve the design to look less institutional. Mr. Lau asked about the 40B requirements for the Town. Mr. Watson suggested that the development should meet the new bicycle parking requirements.

The Chair decided to continue the following agenda items until the July 20, 2020 meeting:

Presentation and Discussion: Whittemore Park renovations, Director's Updates, Meeting Minutes (4/27, 5/4, 5/18)

The Chair introduced the next agenda item, Appointment: Housing Plan Implementation Committee. Ms. Zsembery moved to appoint Michelle Shortsleve to the Housing Plan Implementation Committee Mr. Watson seconded, approved 5-0

The Chair opened the floor to comment from the public for the Open Forum portion of the meeting.

Don Seltzer said that he tried to supplement the shadow studies submitted by the applicants for 1207-1211 Mass Ave. Mr. Seltzer asked that his calculations be doubled checked if the applicant disputes them.

Mr. Lau moved to adjourn, Ms. Zsembery seconded, approved 5-0.

Meeting adjourned.



Town of Arlington, Massachusetts

Correspondence Received

Summary:

Correspondence received from:
Town Counsel D. Heim 08132020

Correspondence received related to a specific docket can be found in the meeting materials for that docket.

ATTACHMENTS:

Type	File Name	Description
▢ Reference Material	Correspondence_received_from_Town_Counsel_081320.pdf	Correspondence from Town Counsel D. Heim received 08132020



**Town of Arlington
Legal Department**

Douglas W. Heim
Town Counsel

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Arlington, MA 02476
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To: Arlington Redevelopment Board;
Jennifer Raitt, Director of Planning and Community Development

From: Douglas W. Heim, Town Counsel

A handwritten signature in dark ink, appearing to read "DWH", written over the word "Counsel" in the "From:" line.

Date: August 13, 2020

Re: Opinion Re: Scope and Limits of ARB Authority

I. Summary

As the Board may recall from a previous memoranda and communications with the Board, or between this Office and interested Town residents shared with you, a frequent subject of interest has been the scope of the Arlington Redevelopment Board's (ARB) authority to waive, modify, or otherwise adjust requirements of the Zoning Bylaw in its Environmental Design Review ("EDR") process.

The ARB is a unique body of limited, but special jurisdiction, functioning as a Redevelopment Authority, Planning Board, and Special Permit Granting Authority (SPGA) through the lens of Environmental Design Review (“EDR”) as codified in the Zoning Bylaw.¹ It derives its authorities from The Town Manager Act; G.L. c. 40A; G.L. c. 121B; and the Zoning Bylaw. Setting aside its other functions of a Planning Board, the ARB hears approximately 10 percent of the Town’s special permit applications, all of which involve commercial, industrial, larger scale residential, or mixed uses “which have a substantial impact on the character of the town and on traffic, utilities, and property values, thereby affecting the public health, safety and general welfare,” within a more rigorous, but also more flexible and subjective process *in addition to* the already substantial special permitting criteria process established for predominantly (though not exclusively) residential uses currently governed by the Zoning Board Appeals (“ZBA”) standards and process.

As set forth in further detail below, special permits processes governed by EDR were and are by design tethered to the stated purposes of the Zoning Bylaw and the ARB’s specific primary mission to redevelop the primary business corridors of Arlington. To that end, the EDR framework is distinct from as-of-right or even the aforementioned standard special permitting process. In addition to the general special permit considerations, Section 3.4 of the Zoning Bylaw (nearly identical to EDR as first articulated in the 1970s) sets forth a series of further qualitative criteria which must be assessed and balanced to broadly achieve the sometime harmonious and competing purposes codified in the Zoning Bylaw, including ARB goals and policies. EDR further explicitly acknowledges that flexibility is essential to its process, encouraging creativity and innovation rather than strict adherence to standards.

As such, EDR decisions of the past have altered, or exempted criteria or even articulated the standards as non-applicable in recognition of some of the fundamental challenges in applying dimension and density regulations to redevelopment of historically previously developed properties. These decisions are based in part upon the authority conferred under G.L. c. 40A sec. 9 to develop not only standards and processes, but to exceed or waive them in the discretion of a SPGA. *See e.g. Auburn v. Planning Bd. of Dover*, 12 Mass. App. Ct. 998, 429 N.E.2d 71 (1981)(affirming “the right of a town to “adopt reasonable flexible methods... of allowing boards of appeals to adjust zoning regulation to the public interest in accordance with sufficiently stated standards”) *quoting Y.D. Dugout, Inc. v. Board of Appeals of Canton*, 357 Mass. 25, 31 (1970).

It bears recognition that in the intervening decades since EDR was introduced, various zoning bylaw provisions were inserted or amended offering for example “bonuses” for special permit applicants accompanied by limitations on said bonuses which were not originally applied or intended to apply to EDR permitting. To some degree these provisions highlight incongruities

¹ To my knowledge, the only other hybrid Redevelopment Authority and Planning Board in the Commonwealth is the Boston Planning & Development Agency (BPDA), formerly known as the Boston Redevelopment Authority (BRA). Due to its unique combined jurisdiction, the ARB was formed by Home Rule petition.

within the Zoning Bylaw relative to an EDR process that by its construction did not likely contemplate such bonuses as necessary under c. 40A sec. 9 or its predecessor.²

Accordingly the most workable interpretation of c. 40A sec. 9 and Section 3.4 of the Zoning Bylaw in concert with the various limitations articulated with respect to ARB-oriented bonus provisions is that the ARB is an entity possessing substantial discretion and authority to exceed or waive the provisions of the Bylaw, with specific bonus provisions throughout the Bylaw provided as supplemental factors for its analysis when issuing decisions. Where the ARB seeks to waive or exceed a specific parameters set forth in the Zoning Bylaw, it should justify such exceptions or conditions with special permit and EDR criteria, and articulate how such exceptions or conditions in excess of the Bylaw further the purposes of the Bylaw and the Board's stated goals and policies.

II. History & Context of the Development of the ARB & EDR

A. Creation of the ARB & Zoning Reform

The late 1960s and early 1970s presented significant fiscal challenges to the Town. In 1970, then Town Manager Donald Marquis encapsulated a long-term challenge for the Town by presenting four options to alleviate the Town's "overwhelming dependence on the property tax":

1. reduce municipal expenditures;
2. broaden the property tax base;
3. change the property tax structure; and/or
4. develop new sources of revenue.

See Excerpt from 1970 Annual Town Report, at p. 181 (annexed hereto as attachment "A"). In his Annual Report summary, Mr. Marquis highlighted that the tax base is derived from a "primarily residential community with little commercial or industrial property to strengthen its tax base..." *Id.* at p. 185. In an effort to broaden the tax base, Mr. Marquis noted that he would be requesting Town Meeting's approval to create "a local redevelopment board... charged with attracting new revenue producing development to Arlington." *Id.* The report stressed that a redevelopment board was "critical if the town is serious in its desire to keep the tax rate down." *Id.*

Accordingly, the ARB was established within the Town Manager Act by c. 738 of the Acts of 1971 following Town Meeting and the State Legislature's approval. *See* c. 738 of the Acts of 1971, and subsequent 1973 amendment (annexed hereto as Attachment "B"). From its

² Indeed the purpose section of the 1975 Bylaw enumerated the "use of incentives, bonuses and design review" as three tools to achieve the Bylaw's goals. 1975 Zoning Bylaw, Section 1.03.

inception, the ARB was empowered as both a redevelopment authority under c. 121B, and a Planning Board for the purposes of G.L. c. 41. *Id.*³

Concurrently, the early 1970s were a turbulent time for zoning locally and across the Commonwealth. In Arlington, the Zoning Board of Appeals had consistently registered concerns about its volume of work hearing special permits and variances in its annual reports. Employing the rubric of the Site Plan Review provisions of the December 1971 Zoning Bylaw, the ZBA heard 54 applications the year the ARB was established.⁴ *See* Excerpts from the 1975 Annual Report, p. 23 (annexed hereto as Attachment “D”). Meanwhile, in a broader context, a successful effort to revise c. 40A was underway culminating in c. 808 of the Acts of 1975 (“The Zoning Act”), adopted with significant input from both the ARB and the Department of Planning and Community Development and a comprehensively revised Arlington Zoning Bylaw proposed to the 1976 Town Meeting.⁵ *Id.* at p. 21.

As noted in the 1975 Annual Report, the Town developed its new Zoning Bylaw with the revised Zoning Act, the Town’s charge to the ARB, and the Town’s then extant zoning challenges in mind. As written by then Director of Planning and Community Development, Mr. Alan McClennen, “the new zoning bylaw is a modern, land-use management tool designed to encourage efficient and equitable growth patterns in Arlington...[p]rocedures were established to review future major development proposals and insure that any new projects will be compatible with the long term growth of the town.” *Id.* The report further emphasized that the 1975 Zoning Bylaw’s EDR provisions would “provide for the permit-granting authority for complex projects to be transferred to the Arlington redevelopment board [sic] for detailed environmental review as required.” *Id.*

B. EDR in the 1970s Bylaw & Later Developments

As codified in the 1970s, EDR was classified under “Special Regulations” Section 11.06 and stated *inter alia* that the purpose of such regulations is:

“[T]o provide individual detailed review of certain uses and structures which have a substantial impact on the character of the town and upon traffic, utilities, and property values therein, thereby affecting the public health, safety and general welfare thereof. The environmental design review process is intended to promote the specific purposes in Section 1.03 of this Bylaw.”

³ The ARB’s powers and authorities were clarified and expanded shortly thereafter by c. 731 of the Acts of 1973 (affording the ARB all the powers of a Planning Board save the duties of a board of survey). *See* Attachment “B.”

⁴ For an overview of the ZBA’s then site plan review process, *see* Section 15-3.5, December 1971 Zoning Bylaw (annexed hereto as attachment “C.”)

⁵ The effective date of the Zoning Bylaw was October 8, 1975, though it was approved by the 1976 Town Meeting.

The “specific purpose” of Section 1.03 of the 1975 Bylaw is the same as it is in 2020:

“...to achieve optimum environmental quality through review and cooperation by the use of incentives, bonuses and design review; and to preserve and increase its amenities and to encourage an orderly expansion of the tax base by utilization, development, and redevelopment of land. It is made with reasonable consideration to the character of the district and to its peculiar suitability for particular uses, with a view to giving direction or effect to land development policies and proposals of the Redevelopment Board, including the making of Arlington a more viable and more pleasing place to live, work, and play.”⁶

Emphasis added.

To that end, the original Bylaw presented (11) additional qualitative criteria for special permits from the ARB such as “Relation of Buildings to Environment,” “Open Space,”⁷ “Heritage” and “Special Features.” These criteria were specifically highlighted to serve as “a frame of reference for the applicant... as well as a method of review for the reviewing authority.” Sec. 11.06(f), 1975 Zoning Bylaw.⁸ The Bylaw then (and now) cautioned that the standards at work and as noted above, “shall not be regarded as inflexible requirements and they are not intended to discourage creativity, invention, and innovation.” *Id.*

In contrast, while general special permit regulations set forth in Section 10.11 applied to both ZBA and ARB, 1970s-era Zoning Bylaws approached ZBA special permitting in a different manner, specifically prescribing “bonuses” and other incentives for matters within ZBA jurisdiction, but also establishing clear limitations of those bonuses. For example, in its original articulations neither Section 6.05 “Exceptions to Dimensional Requirements for Uses 2.05 and 2.07” or Section 6.12 “Exceptions to Maximum Floor Area Ratio Regulations (Bonus Provisions)” within the 1975 Bylaw made any reference to the ARB or EDR. Rather, both of these bonus provisions were anchored specifically to the ZBA’s special permitting process and standards. Similarly, Section 6.29 of the 1975 Bylaw authorized the ZBA through a special permit to count balconies and roofs as open space, but the ARB was not referenced.

This bifurcated approach to special permitting whereby the ARB provided a more rigorous, but flexible EDR, and the ZBA engaged in more conventional special permit review with specific bonuses and incentive provisions is evident in language Section 10.11 added in

⁶ Section 1.03 of the Zoning Bylaw of October 1975; Section 1.2 of the Zoning Bylaw of February 2018 (and as subsequently amended).

⁷ While “Open Space” requirements for example appeared in Bylaw tables, both the 1970s vintage and current EDR criteria set forth a more qualitative standard, asserting “All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing the site or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility, and facilitate maintenance.”

⁸ Sustainable Building and Site Design was added as the 12th EDR standard in 2008.

1979. As maintained until the 2018 Recodification of the Zoning Bylaw, the 1979 addition stated that uses that come under EDR are “subject to the applicable conditions set forth in Article 11 of this Bylaw and elsewhere and subject to *other appropriate conditions safeguards, grant of special permit for such uses or conditions and no others,*” but without ARB or EDR references outside of sections 10.11 and 11.06. Emphasis added.

The clear implication from the intent and structure of EDR and special permit decisions rendered by the ARB of such vintage is that the ARB’s mission and toolkit was highly discretionary in both imposing conditions and granting relief. In the decades that followed however, it appears that such a distinction would be muddled in the Bylaw text.

Section 7.09 of the 1975 Bylaw offers a clear cut example. That section provided for relief from the certain provisions of sign regulations via special permit from the ZBA. The ARB was clearly contemplated when the bylaw was created because the text of Section 7.09 asserted that the ZBA was to receive comments from the ARB and Department of Planning and Community Development prior to making a permit decision. However, no authority relative to sign regulation relief was granted (or limited) relative to the ARB. This lack of reference was likely not because it was never considered that the ARB would have to make determinations on signage, but rather because that authority was viewed as already conferred to the ARB under EDR.

By 1991 however, the ARB was under the impression that it needed to specifically be included in a swath of references to special permit granting authority provisions throughout the bylaw despite references to its authority as same throughout the aforementioned bylaw provisions. Among a suite of insertions of references to the ARB forwarded to Town Meeting with “no comments from the public,” was an update to Section 7.09, which now included the ARB as a SPGA subject to 7.09. *See*, Report and Recommendation of the ARB on Article 12 of the 1991 Town Meeting (annexed hereto as attachment “E”).

The impact of simultaneously affording an atypical EDR process (later described as “super site plan review” by the 2015 Master Plan) and employing a more conventional set of special permit regulations has led to understandable tensions and perhaps unintended consequences whereby EDR may be viewed as a mechanism that affords the Board with only stricter, additional standards, without the benefit of any flexibility or discretion.

III. Analysis

The issue of concern in discussion is twofold. First, is the matter of whether or not EDR and other provisions of the Zoning Bylaw afford the Board any discretion whatsoever to make exceptions, heighten, or otherwise adjust requirements set forth in specific dimensional, density, or special regulations. Second, if such authority exists, what are the guidelines and limitations of such discretion?

G.L. c. 40A sec. 9 vests SPGAs with the authority to grant special permits of a “traditional sort,” including allowance of specific uses as well as dimensional configurations as well as special permits for more innovative uses. *Stroschio v. Gordon*, 3 LCR 51, 55 (Mass. Land Ct. 1995)(internal citations omitted). As noted by the Supreme Judicial Court, a special permit process is by its very nature discretionary, such that an SPGA “may deny a [permit] even if the facts show that a permit could lawfully be granted.” *Zaltman v. Board of Appeals of Stoneham*, 357 Mass. 482, 484, 258 N.E.2d 565 (1970); *Britton v. Zoning Board of Appeals of Gloucester*, 59 Mass.App.Ct. 68, 74, 794 N.E.2d 1198 (2003). Hence, the use of special permits as not only a means of controlling, but also accomplishing the purposes of zoning ordinances is a common, judicially-approved practice. *MacGibbon v. Board of Appeals*, 356 Mass. 635, 637 (1970).

To that end, courts have long held that site plan review is substantively and procedurally consistent with the provisions of G. L. c. 40A, § 9,⁹ and further that it is within the right of a town to “adopt reasonable flexible methods... of allowing boards of appeals to adjust zoning regulation to the public interest in accordance with sufficiently stated standards.”¹⁰ *Auburn v. Planning Bd. of Dover*, 429 N.E.2d 71, 73 (Mass. App. Ct. December 16, 1981) quoting *Y.D. Dugout, Inc. v. Board of Appeals of Canton*, 357 Mass. 25, 31 (1970).¹¹

Discretion to adjust or waive standards is not unlimited, insofar as a bylaw cannot “confer unrestrained power to grant or withhold special permits by the arbitrary exercise of that discretion.” See e.g. *MacGibbon v. Board of Appeals of Duxbury*, 356 Mass. 635, 638 (1970). However, restraint should not be conflated with a mandate for particularity where sufficient standards are articulated. *Auburn*, 429 N.E. 2d at 73.

⁹ This holding is especially important because site plan review is widely employed throughout zoning ordinances in the Commonwealth without a specific textual source of authority in c. 40A, like EDR.

¹⁰ As the *Stroschio* Court notes, paragraphs 2, 3, and 4 of c. 40A section 9 specifically authorize exceptions to a variety of zoning requirements in exchange for amenities or conditions which serve community interests.

¹¹ The *Auburn* holdings are also more broadly applied to other types of special permitting and SPGAs.

A. Authority

Applied to the first issue presented, it is evident from the text of the bylaw, as well the legislative intent both behind the creation of the ARB and the 1975 Zoning Bylaw, that the ARB is a special permit granting authority vested with the responsibility and discretion to employ qualitative standards rather than simply apply tables of regulations. The language expressed in EDR's provisions invites creativity and innovation as well as a potential exchange of relaxed requirements for conditions of stated value to the Board and community.

In furtherance of the Bylaw's purposes and charge to the ARB, Section 3.4 of the Zoning Bylaw establishes the EDR process to "provide individual detailed review of certain uses and structures that have a substantial impact on the character of the town and on traffic, utilities, and property values, thereby affecting the public health, safety and general welfare;" while "promot[ing] the purposes in Section 1." Of particular note in the context of the ARB's authorities are its charges to "encourage the most appropriate use of land throughout the Town;" and "achieve optimum environmental quality through review and cooperation by the use of incentives, bonuses *and* design review." Emphasis added. Indeed, all special permits are explicitly authorized to place conditions on permits that may exceed requirements as set forth in the bylaw. *See* Sec. 3.3.4 of the 2018 Zoning Bylaw (as amended).

Previous EDR decisions highlight the purpose and utility of both the power to place conditions atypical of traditional special permitting and to use such conditions to modify or carve out exceptions to zoning bylaw requirements, particularly given the status of so many Town properties as already built-out and developed prior to the enactment of modern zoning laws.

For example, in the December 13, 2010 Special Permit for Docket No. 3386, (30-50 Mill Street, also known as "The Brigham's"), the ARB noted that there was no existing usable open space on the site of the previous Brigham's Ice Cream Headquarters under EDR criteria number 3 (3.4.4(C) in the 2018 Bylaw). Accordingly, it set forth as a special condition the obligation to maintain a publicly-accessible landscaped walking path and improvements to a Town-owned "pocket park" as a way of satisfying both EDR and open space requirements. The flexibility afforded enabled the applicant to meet other criteria including parking requirements (which included permission to lease 23 spaces from an adjacent property owner), while provide significant public benefit not contemplated by a traditional special permitting process. *See* Decision Re: Docket No. 3386 (annexed hereto as Attachment "F")

In a more extreme circumstance, in the 2013 re-opening of a 1994 Special Permit for 319 Broadway (known as "Common Ground") the ARB granted outright exceptions to EDR criteria for "Preservation of Landscape" and "Open Space" in recognition of the context of the proposed development. As the Board noted, "The site is fully developed... [n]o landscaping exists on this site... [t]his standard is not applicable;" and "[t]he Board finds this standard met." The Board also determined that 29 of the 49 parking spaces required under the Zoning Bylaw would be met by the Town's municipal lot (and that the remaining 20 were provided a certain level of protection that predates applicable zoning restrictions and were allowed under the prior special permit). The Board did however place special conditions requiring parking mitigation and

required sound-proofing of Common Ground's function room, which was highlighted as an attractive commercial offering for Arlington Center and adjacent businesses. *See* Decision re EDR Docket No. 2911, (annexed hereto as Attachment "G").

B. Limitations

Foremost, it bears highlighting the straightforward limitations relative to EDR by virtue of its status as a specific special permit vehicle. In order to be eligible for EDR the proposed use or structure must be noted on the list of applicable items in Section 3.4.2. Similarly, an EDR applicable use or structure not tethered to a specific geographical location must be allowed within a given district by the table of uses. As alluded to previously, the ZBA maintains a higher workload; the ZBA received approximately twenty (20) petitions in 2019 for special permits or variances, while the ARB held hearings on 5 special permit applications, four of which were renovations to existing spaces or signage related, and only one of which presented a new redevelopment.

Second, the apparent conflict between EDR's more flexible nature and specific zoning "bonus" provisions and related limitations codified since the 1990s while problematic cannot be entirely disregarded. To the extent the Bylaw prescribes a specific parameter, including limitations, for incentives and bonuses, those parameters ought to be given considerable weight.

With that acknowledgement that, "a statute or ordinance should not be construed in a way that produces absurd or unreasonable results when a sensible construction is readily available; nor should an enactment be construed in such a way as to make a nullity of pertinent provisions." *Manning v. Bos. Redevelopment Auth.*, 400 Mass. 444, 453 (1987); citing *Green v. Board of Appeal of Norwood*, 358 Mass. 253, 258 (1970)("[z]oning by-laws must be construed reasonably [and] should not be so interpreted as to cause absurd or unreasonable results when the language is susceptible of a sensible meaning"); *Insurance Rating Bd. v. Commissioner of Ins.*, 356 Mass. 184, 189 (1969). Here, to entirely divest the ARB of its ability to "encourage the most appropriate use of land throughout the Town" through the thorough but flexible EDR process because later added bonus and incentive provisions were meant to shore up its special permit granting authorities would be an absurd outcome and may defeat the primary purpose of the ARB.

EDR by its detailed nature provides the very considerations and limitations contemplated by Courts by giving applicants and the Board a set of twelve criteria to satisfy in addition to the seven (7) requirements of all special permits. As highlighted in the examples of ARB EDR Decisions above, these criteria are applied both within a context and in balance with one another. The ARB must be able to articulate how each criteria was considered and its findings on same. And as the above referenced decisions illustrates, where exceptions or adjustments to bylaw requirements are made, the Board must demonstrate that conditions provide protections and/or sufficient benefits to the community interests to merit deviation from a provision of the bylaw.

In sum, while EDR pursuant to c. 40A sec. 9 vests broad discretion to provide modifications, or exceptions to dimensional, density and special regulations, the limitation of that discretion is that both the general criteria of special permits (Section 3.3.3) and the very specific criteria of EDR (3.4.4) must satisfactorily address, including, but not limited to by the imposition of conditions that justify such modifications or exceptions.

IV. Sustainability of the Board's Decisions

Before concluding, permit me to note that it is sometimes remarked that a decision in favor or opposition to a specific special permit is likely to incur liability for the Town or be reversed in Court. In brief, while the facts of every case are different, procedurally sound, well-documented decisions that meet the requirements of c. 40A are afforded substantial deference by courts. Courts do not disturb the decisions of SPGAs “unless it is based on a legally untenable ground, or is unreasonable, whimsical, capricious or arbitrary.” *Browne v. Zoning Bd. of Appeals of Rockport*, 97 Mass. App. Ct. 1108 (2020) quoting *Roberts v. Southwestern Bell Mobile Sys., Inc.*, 429 Mass. 478, 486, 709 N.E.2d 798 (1999). Similarly, while not absolute, Courts also give deference to a zoning authority’s reasonable construction of its own zoning bylaws. See e.g., *Tanner v. Board of Appeals of Boxford*, 61 Mass. App. Ct. 647, 649, 813 N.E.2d 578 (2004) (because the zoning authority is “charged with administration of the by-law, the board’s interpretation is entitled to some measure of deference.”).

It may well be that further discussion is warranted regarding the Zoning Bylaw in your capacity as a Planning Board, including making recommended zoning amendments to Town Meeting. However, in the meantime, the Board should be confident in its responsibilities and authorities to render the decisions it feels most appropriate to further the purposes of the Zoning Bylaw within a reasonable construction of EDR without angst that some inconsistencies of the Bylaw or the general nature of EDR render its decisions vulnerable to reversal.

V. Conclusion

The ARB was designed to be and remains a body of substantial discretion under its charter legislation, c. 40A and c. 121B and the Zoning Bylaw. Over time, the Zoning Bylaw developed some incongruity between the orientation, process and criteria of EDR and specific bonus and incentive provisions. The inconsistent presentation of those bonus and incentive provisions generates predictable frustrations. Nonetheless, guided in part by both c. 40A sec. 9 and the ARB’s prior navigation of its EDR process, the ARB should continue to apply special permit and EDR criteria while considering the bonus provisions as set forth in the Bylaw. As highlighted well in the example Special Permit decisions, where EDRs criteria and/or special conditions offer compelling bases, public benefits, and/or satisfactory protections of public welfare, the Board may, but is not required to act accordingly.

ATTACHMENT “A”

Report of the Town Manager

Once again it is a pleasure to report to you on the activities of the departments under the jurisdiction of the town manager for the year ending December 31, 1970. We urge you and the citizens of Arlington to take this opportunity to peruse this annual report and to review in detail the functions and duties of our town government. It is the intent, in this report, to bring to your attention some of the most important developments in this past year. For detailed information regarding specific departmental activities, we refer you to the respective reports.

Financial Condition

The 1970 annual town meeting appropriated a total of \$17,651,259.42 for the operation of the town departments and for special projects during the course of 1970. Of this amount, departmental budgets amounted to \$16,309,095.42, while appropriations for other warrant articles amounted to \$1,342,164.00. The town was also required to raise an additional \$3,156,207.24 for state and county assessments and for the overlay to provide for tax abatements. A breakdown of these expenditures by category of appropriation or assessment is given below in Table I.

Table I

Town of Arlington Expenditures — 1970*
(by category of appropriation or assessment)

	Amount	Percentage of total expenditures
Town Budgets	\$16,309,095.42	78.4
Warrant Articles (excluding budgets)	1,342,164.00	6.4
County Tax	818,162.96	3.9
State Tax and Assessments	1,494,839.49	7.2
Overlay and prior year abatement deficit	728,514.48	3.5
Offset to Cherry Sheet estimated receipts	56,519.53	.3
Snow Emergency	57,370.78	.3
Total Expenditures	\$20,807,466.66	100.0

*Source: Recapitulation Sheet, Board of Assessors

The town's free cash position as of January 1, 1970 was \$251,049.41. The town's free cash position as of January 1, 1971 was \$735,332.00. This represents an increase of \$484,282.59. This increase is due principally to the earlier mailing of tax bills. During 1969 tax collections were behind schedule as a result of the revaluation and the delayed tax billing.

Revenues

The town manager's 1969 report included a discussion of Arlington's major revenue sources for the five year period from 1965 to 1969. The discussion indicated that most revenue sources available to the town have not expanded to meet the growing costs of providing municipal services. Consequently, the property tax has had to provide a greater proportion of the revenue for municipal services. For the period from 1965 to 1969 the property tax expanded from seventy (70) to seventy-four (74) percent of the town's revenue base. During 1970 this trend not only continued but accelerated. Table II gives a breakdown of the town's revenue structure.

Table II

Town of Arlington Revenues — 1970*

Source	Amount	Percentage of Total Revenue
Real Estate and Personal Property	\$16,654,415.86	80.1
Motor Vehicle and Trailer Excise	1,148,874.26	5.5
Water Receipts	586,170.57	2.8
Other Local Receipts	268,839.17	1.3
Taken from Available Funds	473,433.84	2.2
Cherry Sheet — State Aid	1,675,712.86	8.1
Total Revenues 1970	\$20,807,466.66	100.0

*Source: Recapitulation Sheet, Board of Assessors

This table indicates that the property tax now provides eighty (80) percent of local revenues. It further indicates that state aid has declined from ten (10) percent to eight (8) percent of the town's revenues from 1969 to 1970.

From Tables I and II one should note that the total local payments to state and county governments exceed the total revenue from the state. It would seem that the concept of state aid to local governments has become meaningless in Massachusetts.

In view of Arlington's overwhelming dependence on the property tax as a source of revenue, the town has four alternatives. These are:

1. to reduce municipal expenditures
2. to broaden the property tax base
3. to change the tax structure
4. to develop new sources of revenue

This report will focus on each of these four alternatives since it is these alternatives which have set and will continue to set the guide lines for debate and policy formulation in municipal government.

To reduce municipal expenditures

The Town of Arlington expended nearly twenty-one (21) million dollars in 1970. This money provided for a wide spectrum of municipal services. A breakdown into major functional areas of expenditure for these services is given below in Table III.

Table III

Town of Arlington Expenditures — 1970*

	(by function)	
General Administration	\$ 657,709.30	3.16
Planning and Community Development	127,092.06	0.61
Public Works and Engineering	3,481,057.94	16.72
Police	1,104,563.00	5.31
Fire	1,282,732.00	6.17
Properties and Natural Resources	457,787.47	2.20
Education	8,780,303.00	42.30
Libraries	495,944.00	2.38
Human Resources	746,914.11	3.69
Pensions, Insurance and Collective Bargaining	1,367,864.69	6.58
Overlay (for Abateaments)	729,514.48	3.46
Transportation (METRA)	595,415.00	2.87
County Government	818,162.96	3.94
Other	148,880.85	0.71
Total	\$20,807,466.66	100.00

*Source: Report of the Finance Committee (1970) and Recapitulation Sheet, Board of Assessors.

With this money the town provides its residents with an educational team of fifteen (15) schools instructing about 9,400 students; three (3) high schools with 1,200 students; a police force of 100 officers; eighteen (18) playgrounds, and a cemetery. In addition, it maintains approximately 125 miles of streets, sidewalks, water lines, storm and sanitary sewers, and approximately 15,000 trees. It operates seven (7) fire companies and a volunteer force of one hundred twentyone (121) firemen and a police force of 100 officers. The town also provides a fire department, a police department, a library (80); both of these providing 24 hr./day — 7 day/week services to its residents. Furthermore, the town provides counseling, inspection, health, drug treatment, and social services. The town subsidizes the operation of the townspouse, Bayonet, and the town subsidizes the operation of the Metropolitan Mass Transit System and the operation of county government.

There are two ways of reducing municipal expenditures: 1) increasing operating efficiency of the organization making the expenditures and 2) increasing the number of services provided with those expenditures. Each of these approaches deserves some consideration.

The government of the Town of Arlington is structured by two legislative acts: the Town Manager Act of the Town of Arlington, Massachusetts, and the Representative Town Meeting Act. Under these Arlington has a legislative body (the town meeting) presided over by an elected moderator. It has five elective administrative bodies or officers (board of selectmen, school committee, board of assessors, treasurer-collector, town clerk and housing authority). Each of these is charged with a specific area or areas of responsibility. The board of selectmen appoint a town manager who is charged with responsibility for most of the operating departments of the town. Finally the town meeting may designate specific committees to undertake special projects and appropriate funds for use by such committees.

With this governmental structure, authority over municipal expenditures is not concentrated in one body or individual but rather is diffused among a great number of official bodies and individuals. This pattern of diffused authority is reinforced by the various state designated agencies and authorities whose bills are paid by municipalities. A breakdown of this authority pattern in terms of municipal expenditures is provided below in Table IV.

TABLE IV
Town of Arlington Expenditures — 1970
(by spending authority)

Spending Authority	Amount	Percentage of total Expenditures
School Committee	\$8,780,303.00	42.36
Electmen and Manager	8,362,416.70	40.19
Metropolitan District Commission	888,068.82	4.27
County Commissioners	818,162.86	3.94
Board of Assessors	767,665.28	3.69
M.B.T.A.	595,415.00	2.87
Treasurer-Collector	233,052.00	1.12
Town Clerk	113,463.00	.54
Finance Committee	81,470.00	.39
Revenue — overestimate deficit	56,513.53	.27
Drug Committee	51,391.28	.24
Personnel Board	18,327.00	.08
Other (includes regional special districts, state auditing and billing charges, appropriation to veterans' groups, reserve fund balance)	41,212.00	.20
	\$20,807,466.66	100.00

The town manager originally had over twenty separate departments under his jurisdiction. As part of a program to streamline the organizational structure of municipal government, the town manager has been consolidating the smaller departments into new large scale departments, placing the responsibility for municipal services in specific areas. In 1969 the department of planning and community development was established, followed by the department of properties and natural resources. In addition, in 1970 the town manager proposed the establishment of youth services, senior resources, which would combine the departments of youth services, senior citizens, veterans' services, health, and weights and measures and would also include proposals at the state and federal levels.

The intention in streamlining the governmental structure in Arlington is to produce greater operating efficiency into the organization. This can be accomplished through the pooling of personnel, equipment, and material resources through the introduction of new management skills and techniques, through the evaluation of existing practices and programs.

Already in the two years since the new program of consolidation was begun, several achievements have been recorded. The department of planning and community development has instituted a new program of planning studies, but for the lowest cost. It has initiated a new concept of zoning, but for the best zoning. The department of properties and natural resources has improved timekeeping and reporting procedures and is currently experimenting with programs of vandalism reduction, fire prevention, and actual cleaning of buildings.

The efforts of these departments will be helpful in keeping costs down, as was pointed out in Table IV, expenditures under the selectmen and manager represent only forty percent (40%) of the total local expenditures. Unless the other sixty percent (60%) of the expenditures are kept down, the effect of cost efficiencies in the manager's budget will be wiped out.

Another way of reducing municipal expenditures is to eliminate some of the services which the town is presently providing and reject any proposals for new services. The decision to eliminate existing services is not an easy one to make, but it is one that must be made if the town is to survive. Many of the existing services are maintenance services, and to eliminate them would cost more in the long run. Other services are important because they help to maintain Arlington's image as a desirable residential community. Still others enjoy a clientele who object strongly to the reduction or elimination of that particular service. These and other reasons make the elimination of existing municipal services a difficult task, but not an impossible one. In the coming years increasing consideration should be given to this alternative.

The concept of program budgeting is useful in making the decision to add, delete, or contract or to expand a particular service, since it gives one the exact cost of a particular service and a basis for measuring the effectiveness of that service. For this reason the tool has been gradually becoming a part of the concept of the planning program budgeting (PPBS) within the federal budgeting process. The concept was originally developed within the federal government and has been successfully applied in numerous state and local governments.

Proposals for new municipal services should be given careful consideration. In some areas, such as drug education, the need is apparent. In other areas, such as fire prevention and inspection, the additional service can be provided at no additional cost to the taxpayer through better utilization of personnel. Finally, some services may be justified if there is an indication that such service will bring additional revenue to the town and alleviate the burden

on the taxpayer. An example of this type of additional service is the creation of a redevelopment board, which will be discussed further in the section on report to which we now turn.

2. To broaden the property tax base

Table II indicated that eighty (80) percent of the town's revenue was derived from the property tax. This tax then is the primary source of revenue available to the town. It can be expanded by either broadening the base, i.e., increasing the total assessed value, or by increasing the tax rate. In recent years the latter method has been relied upon as expansion in the tax base has slowed considerably. This has placed an increasing tax burden on the local taxpayer. This situation is not unique to Arlington for in nearly every community in the state the increase in expenditures for in nearly every growth in revenues. Table V and VI illustrate the comparative position of Arlington and other similar communities in the Boston area.

TABLE V
1970 Actual and Full Value Tax Rates*

Rank	Town or City	Actual Tax Rate 1970	Estimated Assessment Ratio (%) 1970	Estimated Full Value Tax Rate 1970
1	Somerville	\$169.30	44	\$75.30
2	Cambridge	109.40	63	69.20
3	Malden	134.00	49	63.10
4	Brookline	59.00	99	58.30
5	Newton	113.00	51	58.20
6	Medford	143.00	40	57.60
7	Woburn	129.40	43	56.00
8	Lexington	65.00	83	54.20
9	Watertown	143.00	38	53.70
10	Winchester	52.00	95	49.50
11	Arlington	48.20	98	47.40
12	Melrose	149.20	31	46.20
13	Bedford	84.00	50	45.20
14	Waltham	110.70	40	44.40
15	Burlington	44.00	98	43.10
16	Concord	39.20	100	39.20
17	Wellesley	45.00	86	38.60
18	Bellmont	37.00	99	36.80

Table V gives a breakdown of the estimated full value 1970 tax rate which shows Arlington in good position relative to the other communities.

TABLE VI

Per Capita Full Value Assessments, 1969*

Rank	Town or City	Full Value Assessment	Population	Per Capita Full Value Assessment
1	Concord	\$157,744,399	14,516	\$10,868
2	Wellesley	260,963,040	26,297	9,923
3	Burlington	182,028,650	19,473	9,347
4	Brookline	499,722,386	53,605	9,321
5	Winchester	187,567,500	21,634	8,670
6	Belmont	249,120,500	28,794	8,651
7	Bedford	89,731,779	10,787	8,318
8	Newton	666,842,647	88,514	7,533
9	Lexington	233,847,857	31,988	7,450
10	Waltham	380,829,880	57,134	6,665
11	Arlington	344,032,460	52,482	6,555
12	Melrose	190,071,250	32,105	5,920
13	Watertown	233,271,000	40,115	5,815
14	Woburn	195,393,134	35,149	5,568

5	Cambridge	496,286,031	92,677	5,355
6	Medford	301,974,512	60,429	4,997
7	Malden	223,567,000	56,142	3,982
8	Somerville	303,158,222	86,332	3,511

* Massachusetts Taxpayers Foundation, Inc., 1970 Tax Rates Actual and Full Value; November, 1970

Table VI gives the per capita full value assessments for the same communities. This table is a measure of the strength of the local tax base. Arlington, because it is primarily a residential community with little commercial or industrial property to strengthen its tax base, does not have a strong position. One should note that with one exception, all of the communities with a lower tax rate than Arlington have a higher per capita full value assessment, i.e., a stronger tax base.

From the above it is evident that as the property tax continues as the principal source of local revenue and as long as municipal expenditures continue their rapid growth, the only way to keep the tax rate down is to expand the property tax base. To do this the town manager will be asking the 1971 town meeting to approve the creation of a local redevelopment board. This board will be charged with responsibility for attracting new revenue producing development to Arlington. This responsibility includes economic and traffic analyses, site selection and acquisition, financing, and negotiations with prospective developers, among other tasks. This board as proposed would report directly to the town manager, selectmen, and town meeting, and all of its actions would be approved by the town meeting.

The establishment of a redevelopment board in Arlington is long overdue. Its acceptance is critical if the town is serious in its desire to keep the tax rate down. It is perhaps the most effective step available to the town in dealing with this problem, since inflation and the tax structure are beyond the control of local government.

3. To change the tax structure

Hardly anyone would deny that the tax structure in Massachusetts puts an unfair burden on the property taxpayer. Real property is no longer a measure of wealth, and municipal services are no longer services to property. Yet in Arlington eighty (80) percent of municipal expenditures are financed out of the property tax.

The solution to this problem, however, is not in local hands. Rather it rests with elected representatives at the state and national levels. The Massachusetts Master Tax Commission has issued an interim report and will soon issue its final report on the Massachusetts tax structure. The town's representatives to the General Court should be urged to give this matter their utmost attention and to make a careful determination of its merits and faults. At the national level the Massachusetts congressional delegation has been urged by Arlington officials to give support to the concept of revenue sharing.

4. To develop new sources of revenue

In addition to expanding the property tax base and changing the tax structure, the town must also give consideration to a variety of methods which would expand its revenues.

First among these methods would be the application for state and federal programs in specified areas. Arlington has received state aid for education, youth counseling, veterans' assistance, drug treatment, and housing. Federal aid has been primarily in the area of education. The town will be applying for additional state and federal funding in numerous areas once the new departments have been more firmly established.

A second method would be to increase charges for municipal services. Some progress has already been made in this area with the revision of permit and license inspection fees and with the revision of parking fine schedules. The additional revenue has not been great since these sources of revenue were not

large to begin with, but the approach is significant. It may be that in future years the town will have to seriously consider charging for some municipal services on the basis of cost. Such services as adult education, recreation, library service, and waste disposal might be paid for by user charges in much the same way that the town now charges for water and for street and sidewalk betterments.

Other developments

Aside from the financial problems which confronted Arlington during the course of 1970, several other developments should be noted. In the public works department new garbage and solid waste disposal contracts were negotiated. If additional negotiations in 1971 for a long-term solid waste disposal contract are successful, then this along with the new refuse transfer station will provide a temporary solution to the town's waste disposal problem. The public works equipment replacement program continued during 1970, and several projects were undertaken to improve the physical appearance of the town yard on Grove Street.

An agreement was reached in collective bargaining with town employees during 1970. Employees were granted a seven (7) percent general wage increase, and funds were appropriated for an improved health insurance program.

Summary

This report has been a brief overview of the problems confronting the town during 1970 and the programs undertaken by departments under the jurisdiction of the town manager. Considerable progress was made during 1970 in consolidating and streamlining the administrative structure of town government and in introducing new management techniques into the operation of town departments.

The financial picture which emerges is not encouraging, but with public awareness of the problem and intelligent discussion of the issues at all levels of government, the opportunity for substantial reform of local government and local tax structures may be near at hand. With substantial revenue sharing from the state and federal governments, meaningful home rule from the state government, continual reorganization of our town government, and community development and redevelopment at the local level, Arlington can survive the financial crisis which it currently faces.

Report of the Town Clerk's Department

To the Citizens of Arlington:

The following annual report of the Town Clerk for the year ending December 31, 1970, is herewith submitted, in accordance with Section 3 of Article 3 of the Town's By-Laws.

The total amount collected by the department during the year and deposited with the Town Treasurer was \$20,699.01, an increase of \$473.15 over the previous year. Included in the total amount was \$6,225.83 for conservation licenses and \$3,605.00 for dog licenses.

The breakdown of fees collected is as follows:

Marriage Intentions	\$ 1,477.22
Filing Fees (Financing Statements, etc.)	3,095.94
Miscellaneous Certificates	3,369.80
Pole Location Orders	260.95
Miscellaneous Licenses	128.00
Renewals of Gasoline Permits	23.00
Miscellaneous Books	499.25
Duplicate Dog Tags	14.00
Dog Licenses	5,605.00
Conservation Licenses	6,225.83
TOTAL	\$20,699.01

DOG LICENSES

1,219 Males	@ \$2.00	\$ 2,438.00
(1 free)		
257 Females	@ 5.00	1,285.00
931 Spayed Females	@ 2.00	1,862.00
8 Transfers	@ 25	2.00
2 Kennel	@ 10.00	20.00
2,417 Licenses Issued		\$ 5,605.00
Paid to County Treasurer, Licenses		\$ 5,001.00
Paid to Town Treasurer, Fees		\$ 604.00

CONSERVATION LICENSES

602 Resident Citizen Fishing	@ \$ 5.25	\$ 3,160.50
200 Resident Citizen Hunting	@ \$ 5.25	1,050.00
150 Resident Citizen Sporting	@ \$ 8.25	1,237.50
93 Resident Citizen Mirror Fishing	@ \$ 3.25	302.25
78 Resident Citizen Female Fishing	@ \$ 4.25	331.50
1 Resident Citizen Trapping	@ \$ 8.75	8.75
3 Special Non-Resident Fishing	@ \$ 5.25	15.75

ATTACHMENT “B”

Chap. 738. AN ACT PROVIDING FOR A REDEVELOPMENT BOARD AND ABOLISHING THE PLANNING BOARD AND BOARD OF PUBLIC WELFARE IN THE TOWN OF ARLINGTON.

Be it enacted, etc., as follows:

SECTION 1. Chapter 503 of the acts of 1952 is hereby amended by striking out section 17 and inserting in place thereof the following section:—

Section 17. Appointment of Redevelopment Board.— The redevelopment board shall consist of five members, four to be appointed by the town manager, subject to the approval of the board of selectmen, and one to be appointed by the department of community affairs, hereinafter in this section referred to as the department. One of said persons shall be appointed to serve for an initial term of one year, two of said persons shall be appointed to serve for an initial term of two years and one of said persons shall be appointed to serve for an initial term of three years. The member appointed by the department shall serve for an initial term of three years. Thereafter, as the term of a member expires, his successor shall be appointed in the same manner and by the same body for a term of three years from such expiration. The members shall serve until their respective successors are appointed and qualified. If for any reason a vacancy occurs in the membership of the redevelopment board, the vacancy shall be filled forthwith in the same manner and by the same body for the unexpired term. The town manager may make or receive written charges against, and may accept the written resignation of, any member appointed by the town manager or a former town manager or may, after hearing and with the approval of the board of selectmen, remove any such member because of inefficiency, neglect of duty or misconduct in office. Such member shall be given, not less than fourteen days before the date set for such hearing, a copy in writing of the charges against him and written notice of the date and place of the hearing to be held thereon, and at the hearing he shall be given the opportunity to be represented by counsel and to be heard in his defense. The town manager may make and receive written charges against the member of the redevelopment board appointed by the department and refer the same to the department which will proceed in the same manner as the town manager and the board of selectmen. Pending final action upon such charges, the officer or officers having the power to remove such member may temporarily suspend him, provided they shall immediately reinstate him in office if they find such charges have not been substantiated, and may appoint a person to perform the duties of such suspended member until he is reinstated or removed and his successor is qualified. In case of any such removal, the removing authority shall forthwith deliver to the clerk of the town attested copies of such charges and of its findings thereon and the clerk shall cause the same to be filed with the department and the state secretary. Membership shall be restricted to residents of the town and a member who ceases to be a resident of the town shall be deemed to have resigned effective upon the date of his change of residence.

Members of the board shall be sworn to the faithful performance of their duties by the town clerk or a justice of the peace. The board shall organize for the proper conduct of its duties, shall elect from among its members a chairman and a vice-chairman, shall appoint such other

officers and agents as it deems necessary, shall determine their respective duties and may delegate to one or more of its members, officers or agents such powers and duties as it deems necessary or proper for the carrying out of any action determined upon by it. The director of planning and community development, hereinafter called the director, shall be ex officio the secretary of the board. The director shall be appointed by the town manager to serve at his pleasure; neither chapter thirty-one of the General Laws nor any rule made thereunder shall apply to the director.

The town, acting by and through the redevelopment board, shall, except as herein specifically provided otherwise, be and have all the powers of an operating agency subject to the limitations provided in sections forty-five to fifty-nine, inclusive, of chapter one hundred and twenty-one B of the General Laws, and have such further powers and be subject to such further limitations as would from time to time be applicable to a redevelopment authority if such an authority had been organized in the town; provided, however, that notwithstanding sections eleven, forty-seven and forty-eight of said chapter one hundred and twenty-one B, no urban renewal project or rehabilitation project shall be undertaken by the redevelopment board, nor shall any property be acquired for any such project by eminent domain or otherwise, until the plan for such project has been approved by an annual or special town meeting; and provided further, that the redevelopment board shall not borrow or agree to borrow money without the approval of an annual or special town meeting. Without limiting the generality of the foregoing, the town, with the approval of an annual or special town meeting, may raise and appropriate, or may borrow, or may agree to raise and appropriate or to borrow, or may do or agree to do other things, with or without consideration, in aid of any project or activity planned or undertaken by the redevelopment board to the same extent and subject to the same limitations as if the board were a redevelopment authority. Nothing herein shall, however, alter or limit the powers and rights of the town or any other operating agency therein with respect to the powers and limitations in sections twenty-five to forty-four, inclusive, of said chapter one hundred and twenty-one B.

SECTION 2. Upon the effective date of this act the terms of office of the members of the planning board of the town shall be terminated. The redevelopment board shall have all the powers and perform all the duties heretofore conferred or imposed on the town planning board by statute or by-law or otherwise and shall further have the powers and perform the duties from time to time hereafter conferred or imposed by statute or by-law or otherwise on planning boards of towns in the commonwealth established under the provisions of section seventy of chapter forty-one. All property in the care and custody of the planning board and all appropriations of the town for the use of the planning board shall be transferred to the care and custody of and vested in the redevelopment board; and for all purposes, including without limitation those of chapters forty-one and one hundred and twenty-one B of the General Laws, the redevelopment board shall be deemed to be a continuation of the existing planning board of the town.

SECTION 3. Said chapter five hundred and three is hereby further amended by striking out section eighteen.

SECTION 4. This act shall take effect upon passage.

Approved September 9, 1971,

Chapter 731.

THE COMMONWEALTH OF MASSACHUSETTS

In the Year One Thousand Nine Hundred and Seventy-three

AN ACT PROVIDING ADDITIONAL POWERS AND DUTIES FOR THE REDEVELOPMENT

BOARD IN THE TOWN OF ARLINGTON.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

SECTION 1. Chapter 738 of the acts of 1971 is hereby amended by striking out section 2 and inserting in place thereof the following section:-

Section 2. The redevelopment board shall have all the powers and perform all the duties presently or from time to time hereafter conferred or imposed by statute or by-law or otherwise on planning boards of towns in the commonwealth established under the provisions of section eighty-one A of chapter forty-one of the General Laws and the town of Arlington shall be deemed to have a planning board established under said section eighty-one A and shall be empowered to take such actions and shall have such powers and perform such duties as if it had established a planning board under said section eighty-one A, except that the redevelopment board shall not have any of the powers or perform any of the duties of, or in conflict with the powers or duties of, a board of survey all of which powers and duties shall continue to be exercised and performed by the board of selectmen constituted as a board of survey unless and until such town by vote of a town meeting shall vote to terminate the existence of the board of survey or to accept the provisions of the subdivision control law contained in sections eighty-one K to eighty-one GG, inclusive, of said chapter forty-one and any amendments thereof or additions thereto, and the subdivision control law shall not be or be deemed to be in effect in such town unless and until such town by vote of a town meeting shall vote to accept the provisions thereof.

SECTION 2. This act shall take effect upon its passage.

House of Representatives, August 15, 1973.

Passed to be enacted, *Daniel M. Bartley*, Speaker.

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TOWN CLERK'S OFFICE
ARLINGTON, MASS.

In Senate, August 15, 1973.

Passed to be enacted, *Rene B. Hujt* President.

September 4, 1973.

Approved,
at 3 o'clock and 40 minutes, P. M.

Francis Sargan
Governor.

ATTACHMENT “C”

File

Zoning By-Law

For the

Town of Arlington

MASSACHUSETTS



as amended to

December 1971

- (d) All permitted signs may be illuminated by white or blue non-flashing lights.

Section 15-3.5. Site-Plan Approval

No new buildings shall be constructed nor shall any existing building be altered, enlarged or reconstructed until an application for site plan review has been filed with the Zoning Board of Appeals and with the office of the Town Clerk. The application shall include the material listed in Section 9(c) together with sufficient written material to support an affirmative finding by the Zoning Board of Appeals for the following conditions:

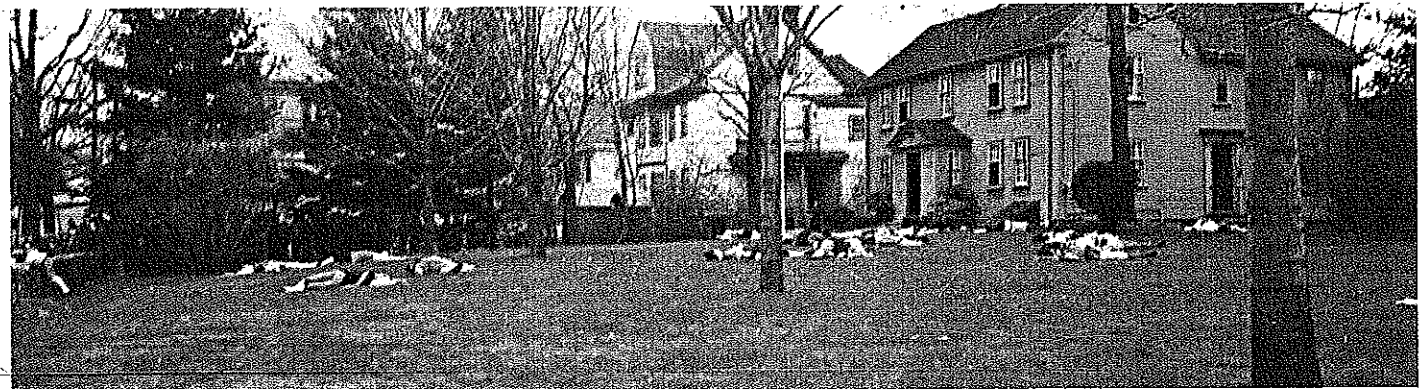
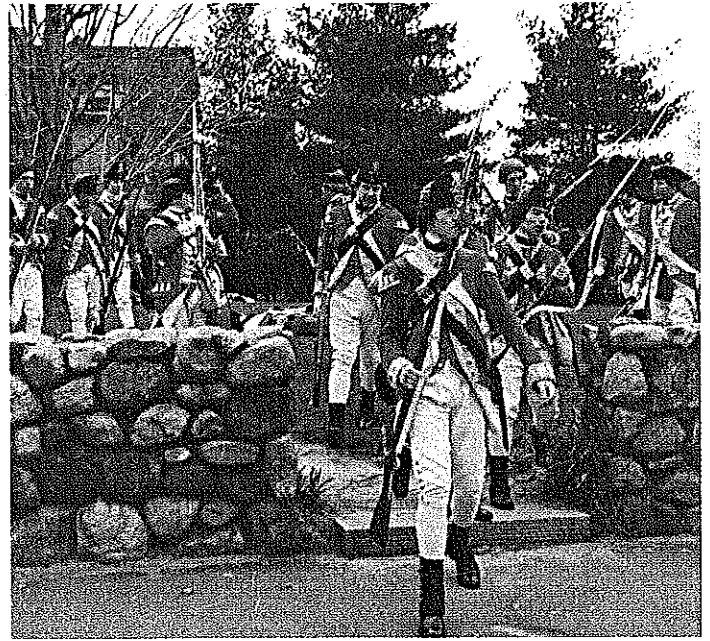
1. The proposed use is necessary to meet the medical needs of the community.
2. The site of the structure or use is in an appropriate location.
3. The use when developed will not adversely affect the neighborhood and the abutting zoning districts.
4. That ingress and egress for traffic flow is designed properly so that there will be no serious hazard to vehicles or pedestrians.
5. That appropriate and adequate parking facilities are provided for each use and structure in the district.

At the time of filing an application with the Zoning Board of Appeals, the applicant shall also file duplicate copies of all materials, maps, and data with the Arlington Redevelopment Board and the Department of Planning and Community Development. Before granting a special permit for a site plan approval, the Zoning Board of Appeals shall hold a public hearing, notice of which shall be given in accordance with the provisions of 40A and local by-laws. The Zoning Board of Appeals shall make its finding within sixty (60) days from the date of application. If the Zoning Board of Appeals fails to issue its finding within sixty (60) days, the site plan shall be deemed approved and a special permit granted. The Department of Planning and Community Development and the Redevelopment Board shall have an opportunity to prepare written reports with recommendations to be submitted to the Zoning Board of Appeals before or at the public hearing. The failure of either the Redevelopment Board or the Department of Planning and Community Development to submit written reports or to give an oral report at the public hearing shall not invalidate action by the Zoning Board of Appeals. A favorable decision by the Zoning Board of Appeals shall require the affirmative votes of all members.

ATTACHMENT “D”

1975 Annual Report

Town of Arlington, Massachusetts



The Defense of Liberty is Our Ancestral Heritage

BOARD OF SELECTMEN

Since early colonial times the board of selectmen have made an annual report of the activities of the town to its citizens. We recognize our great many responsibilities and duties and we have tried to carry out our obligations for the best interest of the town.

This past year shall be remembered for its challenges, opportunities and problems. Inflation continued to increase costs of materials, services and expenses to operate the town. The town, the commonwealth and the nation experienced one of the most severe recessions in several decades.

Unemployment across the state reached the 14% mark. Approximately 10% of Arlington residents were unemployed. This rate of unemployment was reflected in the increase in applications from residents and others who wished to be considered for employment by the town. We were able to provide employment to some individuals through the Comprehensive Employment Training Act known as CETA which is a locally administered federally funded program. Approximately 77 individuals were placed in jobs over the course of the year, while another several hundred were provided counseling and assistance in finding employment outside the town.

It is interesting to read about the economy one hundred years ago from the annual report of 1875, "and looking back over the past twelve months, a period in which every branch of industry has suffered from general depression, our factories discharging their help, and reducing the payroll of the fortunate few who remained to the lowest living point, laborers constantly besieging us for work, in numbers far beyond the practical requirements of the town".

At the town election held in March, Robert B. Walsh was reelected to a three year term, and Ann Mahon Powers was elected to a three year term filling the position previously held by Harry P. McCabe, who did not seek reelection. Shortly after the election Margaret H. Spengler was elected chairman of the board, the first woman to hold this position in the town. George K. Rugg was elected vice-chairman.

SPECIAL REVENUE SHARING

One of the highlights of the year was receipt of a letter from the President of the United States congratulating the town on being one of the first communities in the country to apply for and receive approval on their special revenue sharing application. This award is the result of considerable action by the town manager and the board of selectmen to make towns with populations of 50,000 eligible for special block grant funds. These efforts included testimony by the town manager before a Congressional committee urging an amendment to the special revenue sharing legislation of 1974. There were frequent consultations with our Congress-



L. to R: George K. Rugg, Ann Mahon Powers, Margaret H. Spengler, Chairwoman, Arthur D. Saul, and Robert B. Walsh

sional delegation. Arlington became one of a handful of towns in Massachusetts to receive this award of funds directly. The first year's 1975 allotment was \$141,000 and as funding is appropriated by Congress, Arlington expects to receive in excess of \$2.5 million over a six year period. Although the funds are to be expended under the direction of the selectmen and town manager, the program was developed with the assistance of a citizens advisory committee. The first year plan calls for further human needs study, a home improvement loan assistance program and a land acquisition fund. Town meeting members voted to approve acquisition of land on the Mystic Lakes which is referred to as "the window on the Mystic", also a substantial parcel of land adjacent to the high school. In addition to the funds appropriated by the town, the selectmen and town manager have approved the use of \$50,000 of special revenue sharing funds towards the acquisitions.

RAPID TRANSIT

As a result of the energy crisis, officials at the federal and state levels are placing a greater priority on the use of public transportation. In 1975 the extension of rapid transit from Harvard Square to the northwest corridor, under consideration for 30 years, now is achieving more serious recognition at the state level. Plans advanced to a

point that state transportation officials requested that we establish station task force advisory committees for Arlington center and Arlington heights. Citizen representatives were also appointed to the Cambridge Alewife task force station study committee.

Working with Alan McClennen, director of the town's planning and community development department, the board of selectmen redrafted a town policy on the Red Line transit line into Arlington. The statement indicates that the town will accept the Red Line if it is built underground in a cut and cover formation. It is the position of the board that the Red Line must ultimately extend to Route 128. Rapid transit is viewed as a necessary catalyst for economic development in the business districts of the town.

The efforts of the redevelopment board and planning department resulted in the new town zoning bylaw adoption by the town meeting in October 1975. This new zoning bylaw, one of the most modern zoning bylaws in the state, is the first complete revision since 1924.

It provides the town with ample controls and yet is flexible enough to allow growth and redevelopment that will preserve the character of the town.

One of the major issues of the year was the proposed renovation of Arlington High School. It was the subject of two special town meetings, one in January and one in April. On both occasions the town meeting members voted approval of the \$19 million project. The state would have funded 65% of costs. Twice the question was presented to the voters at special referendum elections and was rejected. In December 1975, the New England Association of Schools and Colleges placed Arlington High School on probation. Unless the community takes positive action to correct the facilities problem, the school could face loss of accreditation. The selectmen, town manager, permanent building committee and school committee are concerned at the crisis that results from these actions.

BICENTENNIAL ACTIVITIES

It was a most active year for bicentennial celebrations and activities. The Arlington bicentennial planning committee is to be commended for the excellent programs and events presented for Arlington's celebration. All events were planned to make citizens more aware of the history and heritage of the town. We thank Patricia Fitzmaurice and George "Brud" Faulkner, co-chairpersons of the bicentennial planning committee for their untiring efforts, exceptional interest and leadership in guiding the committee's activities.

The Patriots' Day parade, one of the largest bicentennial parades held in the country attracted an estimated 250,000 viewers. The security requirements necessitated extra assistance from state police, metropolitan police and police from neighboring communities. The town also utilized a



Elaine Kahan

helicopter for increased supervision and public safety control for traffic, both pedestrian and vehicular. The Patriots' Day parade committee and in particular its chairman, Mark Kahan and his wife Elaine, are to be thanked for their efforts in making this project an outstanding success.

There were numerous other bicentennial activities, all of which required great citizen participation. The board of selectmen express their appreciation to those who provided the community with many outstanding bicentennial programs and events.

The board of selectmen initiated three programs to mark the bicentennial years, the refurbishing of the town hall, the honors awards and the ceremonial town meeting. Three citizen committees were appointed to carry out these programs. Funds appropriated by the town meeting and an \$8,000 grant awarded by the state bicentennial commission were used by the refurbishing committee to redecorate and do some restoration in the town hall.

The selectmen designed and voted four awards to honor citizens for their contributions to the community. The awards were named to honor former contributing members of this community — the Robbins Award honors the Robbins family, the Dallin Award recalls the civic activities of Vittoria and Cyrus Dallin, the Wilson Award honors Uncle Sam, and the fourth award is the Good Citizenship

Award. The awards committee, a group of five citizens, will consider nominations and make the appropriate awards to their fellow citizens.

To mark the long history of the town meeting in our community, the Selectmen appointed a 15 member committee to prepare a ceremonial town meeting to be held outside during the 1976 year of celebration.

ADMINISTRATION

The good news this year to the property owners and other taxpayers was that there was no tax increase. This was the result of action by the board and efforts of the town manager and department heads in holding the line while striving to increase efficiency of operations.

One of the more serious effects of inflation resulted in the substantial increase in the medical insurance costs for town employees. The bids received indicated that health insurance costs increased approximately 40% over the previous year without adding additional coverage.

We found that we had no choice but to accept the increase in order to protect our employees. As a result, the board established an advisory committee on self-insurance who are looking into the alternative of the town becoming self-insured. Under present law, communities in Massachusetts are not allowed to become self-insured as is the case in the private sector; however we are committed to working to change present legislation.

The matter of vandalism in the community, both in the public and private sector, has caused much concern. After considerable discussion with the town manager, an advisory committee on vandalism was established to survey the scope of the problem. The final report received in December was an excellent document and we commend the individuals who served on the committee for their valuable work. The Board intends to hold a series of meetings with various groups, organizations and officials in 1976 to discuss a total community effort to reduce vandalism.

Last year we reported that we were formalizing various policy and procedures of previous Boards. To date, over 41 items have been documented and approved.

As we began to develop new zoning policies to guide the future growth and development of the town, it became apparent that the attitudes and opinions of the citizens were needed.

Dr. Lawrence Susskind of MIT, department of urban planning, was contacted by the board of selectmen and invited to set up a citizen-based planning process in Arlington. The purpose of this program was to give citizens

an opportunity to influence policy and help to set priorities. Dr. Susskind presented the proposal to town meeting members at a meeting of the board of selectmen.

From this meeting evolved the process now known as the Citizens Involvement Committee. During this past year the CIC conducted a town wide survey on six community issues. MIT staff and funding was made available for this study. The selectmen used special revenue sharing funds for the survey on human needs and land use. There is expectation that the CIC will provide substantial input into policies and priority setting. Appreciation must be expressed to the citizens and the staff of MIT for this valuable contribution. Our particular thanks go to Dr. Susskind and William Grannan, chairman of CIC.

We wish to thank the town manager, Donald R. Marquis, for the continued high caliber performance of his professional responsibilities. We express appreciation for his persistent and successful actions in obtaining federal funds for Arlington. We further commend him for the new performance budget procedures and his efforts to increase productivity and efficiency in the delivery of town services.

Alan McClennen, director of the department of planning and community development, met with the board of selectmen on a regular basis this year keeping members informed on redevelopment, zoning, rapid transit and long range planning. We express our appreciation to him and the redevelopment board for their cooperation and we look forward to working together for the new era of renewal of Arlington's business districts.

To Fred Pitcher, our executive secretary, and our office staff, we acknowledge with appreciation the excellence of their work and their cooperation in a year that demanded extraordinary efforts.

Finally to the citizens who volunteered so many of their hours on committees, boards and commissions of the town, a sincere word of appreciation. Your participation is a vital cog in the function of town government. To all town employees, our appreciation must be expressed for keeping the fine quality of government services known to Arlington. Arlington's reputation has been built on your loyal contributions and faithful service.

The American Revolution was one of the most important events to occur in history. As we celebrate our 200th Anniversary the world looks to us as the lead example of democracy. Participation in government in a democracy means an attitude, a moral view and a willingness to assume civic responsibility. Our democratic government depends upon its people and the time they invest to make it work. As a community, let us all celebrate the events of independence through vigorous participation in government.

control; this year we reduced our budget by \$300,000 over last year's appropriations. We cannot continue to do this in the future unless we cut services. After including salary and wage increases for all town employees, including school department personnel, the recommended school budget is up by 14.1%, all other town budgets are up by 6.5%, and the budgets under the town manager and board of selectmen are up by 1.8%. In order to hold the tax rate down, all town departments must trim their budgets, and the state must stop passing the cost of state mandated programs down to the local level.

It would appear that the years ahead will not be easy ones. The failure to address our problems, however, may mean fiscal disaster for local government. Let us all work together productively in the years ahead to shape the type of community that benefits and serves all of us.

HISTORY AND ROLE OF THE TOWN MANAGER FORM OF GOVERNMENT

An annual report designed to relate the past with the present and the present with the future could not be complete without some discussion concerning the town manager form of government. Arlington, by special act, adopted the present structure by referendum in 1952. Today, over 51 million other Americans live in communities governed by a manager plan. Since the establishment of the manager plan sixty eight years ago, it has become the most popular form of local government in the United States. Over 55% of the communities with a population of 25,000 or more have adopted the plan. In Arlington, our form of government is bolstered by a representative town meeting, which strengthens democratic principles.

The town manager plan is designed to provide professional knowledge as well as democracy in governmental operations. The manager, a trained public administrator, is appointed by the board of selectmen to serve as administrative head of the community. Broadly speaking, the division of responsibility and authority vested in the selectmen and the manager rests in policy formulation and administration, respectively. Government students are in agreement, however, that no strict line of demarcation can be drawn between policy and administration, that between the two lies a gray area in which the administrator and the legislators must necessarily function. The primary duty of the manager is to keep the selectmen well informed on all town business and to advise and make recommendations concerning all town policies. The selectmen may or may not follow the manager's recommendations; nevertheless, it is their duty to consider these recommendations and to weigh all factors before formulating general policy. In addition, it is one of the primary duties of the selectmen to give general direction and guidance to the manager. The manager has

jurisdiction over all departmental activities; he appoints all department heads, and these department heads, in turn, are directly responsible to him. As general overseer of all town employees and operations, the manager is also responsible for planning, organizing, directing, controlling, and coordinating all department activities. In summary then, under the town manager form of government, the board of selectmen is responsible and responsive to the citizens, and the manager is directly responsible to the selectmen for overall administration and coordination of all town activities. Within this conceptual and structural framework lies one of the most important premises of the town manager form of government: the integration of professionalism with democracy.

In concluding this report for 1975, I wish to thank the members of the board of selectmen for their continued assistance and guidance. The programs and projects in our 1976 budget can be realized only through the cooperation and coordinated efforts of many people, specifically, the selectmen, town manager, boards and commissions, citizen advisory groups, town meeting members, department heads, employees, and finally, the citizens. In the past, these people have shown a high degree of interest which we hope will continue in the future.



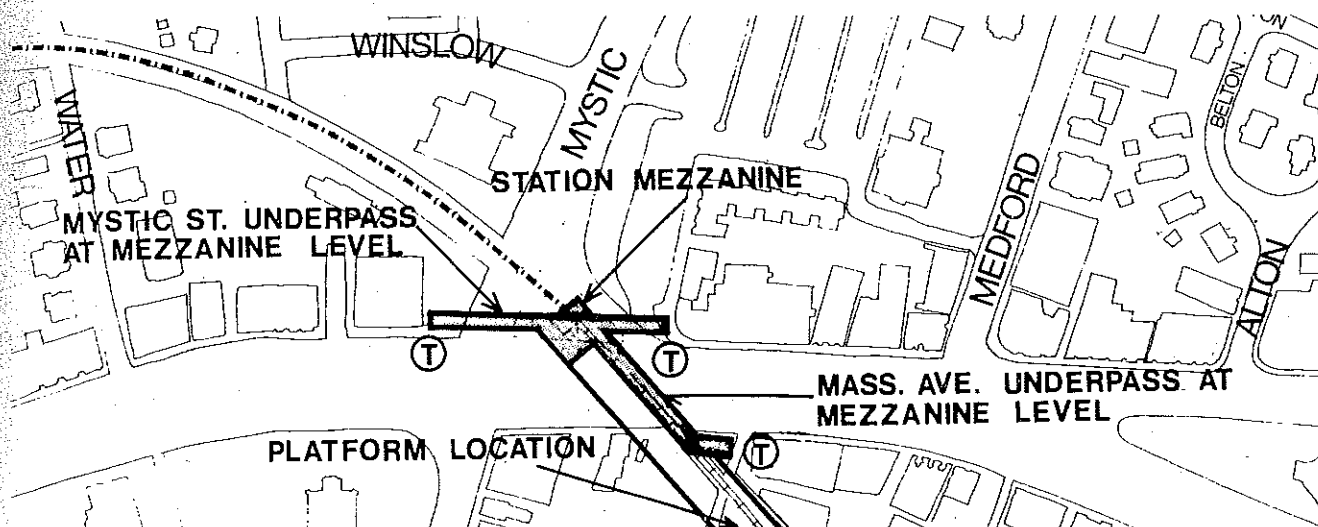


Illustration of Proposed Red Line Station Configuration, Arlington Center

PLANNING AND COMMUNITY DEVELOPMENT AND REDEVELOPMENT BOARD

The Arlington redevelopment board and the department of planning and community development have concluded a milestone year in planning for the future development of the town. The board and department have worked closely as a team on a number of critical issues.

ZONING BYLAW

The first completely new zoning bylaw in 50 years was unanimously passed at the October special town meeting. The new bylaw is the result of three years of intensive analysis of the community including an evaluation of each parcel of land. It has a readable text and a carefully prepared zoning map tailored to the needs of Arlington's citizens according to current land uses. The new bylaw eliminates the inconsistencies, confusion and conflicts of the old bylaw which had been amended numerous times since 1924.

The new zoning bylaw is a modern, land-use management tool designed to encourage efficient and equitable growth patterns in Arlington. Zoning is the most effective way for a community to control its land use and physical environment. Approval of this bylaw places Arlington in prominence as one of the most advanced communities in Massachusetts with its land use control mechanisms. Procedures were established to review future major development proposals and insure that any new projects will be compatible with the long term growth of the town.

The board and department worked closely with the legislature this year to secure a revision of the zoning act finally passed as Chapter 808 late in December. The town's bylaw was carefully drafted to provide for the changes

permitted under Chapter 808. These provisions will be formally submitted for adoption at the annual town meeting in 1976. If adopted, these amendments will provide for the permit-granting authority for complex projects to be transferred to the Arlington redevelopment board for the detailed environmental review as required. The redevelopment board has the staff support from the department of planning and community development for research and assistance on these matters. The department will continue to research and make recommendations to the zoning board of appeals on each individual case before that board.

THE RED LINE AND TRAFFIC

A second milestone activity closely related to future growth and development in Arlington is the work being planned on the MBTA Red Line extension out of Harvard Square through Arlington. The Mill Brook Valley/Arlington Center Plan and the zoning bylaw were both developed in close association with the Red Line proposal. A draft policy position on the Red Line was prepared by the board and department and adopted by the selectmen. In addition, we have been in continuous contact with state officials to insure that this important regional facility will provide maximum benefit to the town. The town's two task forces and its representatives to the Alewife Task Force have been meeting at least biweekly for over a year with MBTA representatives and their consultants. These meetings have allowed the town to become familiar with the details and the possible impacts, visual, aural and physical, that such an extension would have. In addition, they have provided a forum for the town to voice its demands on the alignment and configuration of the Red Line through Arlington.

The town's continued support of the Red Line extension between Harvard Square and Route 128 is contingent upon agreement between the town and the MBTA on many issues. The concept of a balanced transportation system to eliminate total dependence on the automobile is the primary goal. Since 1973, the town has supported the Red Line extension from Harvard Square via Porter and Davis Squares, Alewife Brook, through Arlington to Route 128 in Lexington. The extension will be funded 80% by federal funds and 20% by a state transportation bond issue that has already been authorized. The federal funds are monies that were originally set aside for the construction of highways such as the Route 2 extension and the Inner Belt in Cambridge which have now been abandoned. Since these highways would have had an impact on Arlington, the town feels that a portion of the funds should be used to improve the town-wide transportation system.

The town's position has been that the Red Line shall be completely underground along the Boston and Maine Railroad right-of-way with stations at Arlington Center and Arlington Heights. The removal of the surface railroad and the construction of the underground transit line will provide Arlington with an opportunity to develop a linear auto-free park, between 60- and 100-feet wide along the right-of-way from Thorndike Park in East Arlington to Hurd's Field at Arlington Heights. The transit station in Arlington Center will allow the town to develop the Center into a modern commercial area that has long been desired. The details on an Arlington Heights station, including its size and location, must still await the results of another study known as the Lexington Area Transportation Improvements Study.

We feel that the Red Line is the most significant issue presently confronting the town. It provides opportunities as well as liabilities. The position taken by the board and the department has been to demand a facility that maximizes the benefits to the town.

SPECIAL REVENUE SHARING

Arlington was one of the first communities in Massachusetts to apply for and receive approval from the department of housing and urban development on its application for Special Revenue Sharing. This year's entitlement of \$141,000 was allocated to a land acquisition program, a study of social services needs, and a home improvement loan program for low- and moderate-income families. Town meeting approved the purchase of two parcels of land with the financial assistance of Special Revenue Sharing. The first is a three-acre parcel, known as the "Window on the Mystic Lake" and located between Mystic Street and the Upper Mystic Lake. The property is the last remaining open piece of land in Arlington adjacent to the lake. It will be used for conservation purposes. The second parcel is a piece of land adjacent to the high school. This land will be used to ultimately improve the land area surrounding the school.



Members of the Arlington Redevelopment Board. Seated L. to R.: Phillip J. McCarthy, Joseph F. Tulimieri, Stephen Pekich, and Edward Tsoi. Standing L. to R.: Alan McClennen, director of planning and community development department and Robert Sheehan.

In accordance with requests from the Citizens' Advisory Committee, the needs for certain social services in the town were analyzed. The first part of that study was completed in December and a booklet, "Arlington Information Directory: A Guide to Available Services, Community Agencies and Organizations", was published. The second part of the study was completed in January 1976 and presents human services needs from the perspective of the agencies in Arlington currently providing these services. These two studies were done by the staff of the department of human resources and were partially funded under Special Revenue Sharing. A third element consisted of the social services survey conducted by the citizens' involvement committee, the results of which were presented at a town-wide meeting in January 1976. The home improvement loan program is expected to begin late in 1976 and will combine the limited funds allocated to it in 1975 with 1976 funding. The program will be aimed at the rehabilitation of private residences owned by low- and moderate-income families which are in violation of the housing code.

DESIGN OR MODEL BLOCK

Following the adoption of the new zoning bylaw, we started regular monthly meetings with members from the Arlington Chamber of Commerce to coordinate efforts to upgrade the physical and visual aspects of Arlington business areas. Several vacancies and impending occupancies led the board to delineate one particular block between Medford and Alton Streets along Broadway as the so-called "Model Block". The firm Vision, Inc., was engaged to develop a design concept for the block including maintenance of the original facades and recommendations regarding color, awning and sign treatment for each store. The resulting work is to be used in clinics with each storeowner. The ultimate goal of this program is to recreate the visual

ATTACHMENT “E”

Report to Arlington Town MeetingApril 22, 1991

WARRANT ARTICLE 12

Special Permit Granting Authorities

This article was submitted by the Redevelopment Board. It proposes to formally adopt procedures that have been in effect since 1976. Prior to that time, all special permits were acted upon by the Zoning Board of Appeals. In 1976, the Redevelopment Board was given the responsibility for acting on special permits that were subject to environmental design review. The bylaw does not always make the appropriate reference to the two boards. Article 12 makes all the references consistent.

During the ensuing fourteen years, the Building Inspector and the Redevelopment Board have also agreed that a number of other types of special permits should be acted upon by the Redevelopment Board when it is hearing an environmental design review case. This warrant article proposes to amend the Bylaw to formalize that procedure.

An additional reference was discovered since the printing of the warrant. We recommend that it also be changed. The additional change is in Section 9.06 and the text is shaded in the vote below. A comma has been added to correct the punctuation in the phrase ", or in cases subject to Section 11.06, the ARB."

In accordance with Massachusetts General Laws Chapter 40A and the Arlington Zoning Bylaw, a public hearing on articles which amend the Zoning Bylaw was held by the Arlington Redevelopment Board on March 11, 1991. No comments were received from the public concerning this article.

VOTE ON THE ARTICLE

VOTED: That the Town vote to amend the Zoning Bylaw in the following ways,

in Article 2, Definitions, Section 2.01, insert the following definition immediately following the definition of "Special Permit" and immediately before the definition of "Story",

"Special Permit Granting Authority:

The Zoning Board of Appeals, or in the case of a special permit which qualifies for Environmental Design Review under Section 11.06 of the Zoning Bylaw, the Arlington Redevelopment Board.",

and in Article 6, Section 6.03,a in the second sentence by inserting immediately after the words "The ZBA," the words "or in cases subject to Section 11.06, the ARB,"

and in Article 6, Section 6.05,b by deleting the words "Board of Appeals" and inserting in place thereof the words, "ZBA" or in cases subject to Section 11.06, the ARB",

Report to Arlington Town MeetingApril 22, 1991

and in Article 6, Section 6.12,d by inserting immediately after the words "The ZBA" the words " or in cases subject to Section 11.06, the ARB",

and in Article 6, Section 6.29 in the first sentence by inserting immediately after the words "The ZBA" the words " or in cases subject to Section 11.06, the ARB",

and in Article 7, Section 7.09 in the first sentence by inserting immediately after the words "The ZBA" the words " or in cases subject to Section 11.06, the ARB", and in the second sentence by deleting the words "Board of Appeals" and inserting in place thereof the words, "ZBA or ARB as appropriate", and in the second paragraph by adding at the end of the last sentence, before the period, the words, ", and if subject to ARB approval, the ARB shall not act until it receives comment from the Department of Planning and Community Development",

and in Article 8, Section 8.05 by inserting immediately after the words "The ZBA" the words " or in cases subject to Section 11.06, the ARB",

and in Article 8, Section 8.06 in the first sentence by inserting immediately after the words "The ZBA" the words " or in cases subject to Section 11.06, the ARB",

and in Article 8, Section 8.11 by inserting immediately after the words "The ZBA" the words " or in cases subject to Section 11.06, the ARB",

and in Article 8, Section 8.12,n by inserting immediately after the words "The ZBA" the words " or in cases subject to Section 11.06, the ARB",

and in Article 9, Section 9.06 a. by inserting immediately after the words "The ZBA" the words " or in cases subject to Section 11.06, the ARB",

and in Article 10, Section 10.11,c in the first sentence by inserting immediately after the words "In order that the ZBA" the words " or in cases subject to Section 11.06, the ARB", and immediately after the words, "in duplicate to the ZBA" by inserting the words, ", or the ARB as appropriate",

and in Article 11, Section, 11.03 by deleting the words, "Zoning Board of Appeals" and inserting in place thereof the words, "ZBA",

Article 13

Concerning Bed and Breakfasts

To see if the Town will vote to amend the Zoning Bylaw in the following ways,

In Article 5, Section 5.04, Table of Use Regulations, by adding the following uses immediately following use 1.10,

"1.11

Conversion of one or two family dwelling to licensed bed and breakfast

<u>R0</u>	<u>R1</u>	<u>R2</u>	<u>R3</u>	<u>R4</u>	<u>R5</u>	<u>R6</u>	<u>R7</u>	<u>B1</u>	<u>B2</u>
SP	SP	SP	SP	SP	SP	SP	SP	SP	SP
<u>B3</u>	<u>B4</u>	<u>B5</u>	<u>H</u>	<u>PUDI</u>	<u>T</u>				
SP	SP	SP							

1.12

Conversion of one or two family dwelling to licensed bed and breakfast home

<u>R0</u>	<u>R1</u>	<u>R2</u>	<u>R3</u>	<u>R4</u>	<u>R5</u>	<u>R6</u>	<u>R7</u>	<u>B1</u>	<u>B2</u>
SP	SP	SP	SP	SP	SP	SP	SP	SP	SP
<u>B3</u>	<u>B4</u>	<u>B5</u>	<u>H</u>	<u>PUDI</u>	<u>T</u>				
SP	SP	SP							

and in Article 2, Definitions, immediately after the definition of Basement,

"Bed and Breakfast:

A dwelling in which lodging units are rented and breakfast is served to the people occupying the lodging units, and which has a resident owner or manager.

Bed and Breakfast Home:

A bed and breakfast occupied and operated by the owner and in which no more than three lodging units are available for rent.",

and in Article 2, Definitions, in the definition of Lodging Unit, in the second

sentence, immediately after the words "boarding houses," by adding the words "bed and breakfasts, bed and breakfast homes,"

and in Article 2, Definitions, in the definition of Dwelling, in the second sentence, immediately after the words "lodging house," by adding the words "bed and breakfasts, bed and breakfast homes,"

and in Article 8, Off Street Parking and Loading Regulations, in the Table of Off-Street Parking Regulations, in the third listing under the category, "use", by adding immediately after the words "lodging house," the words, "bed and breakfast, bed and breakfast home,"

and in Article 11, Section 11.06,b,(d) by adding immediately after the words "Lodging house" the words ", bed and breakfast, bed and breakfast home,"

and in Article 7, by adding immediately before Section 7.06, a section as follows:

"Section 7.05a - Signs for Bed and Breakfasts

A bed and breakfast or a bed and breakfast home in any zoning district may have not more than one permanent, unlighted sign, not to exceed four square feet in area, and if a ground sign, it must be set back not less than half the depth of the front yard.",

or take any other action thereon.

(Inserted at the Request of the Redevelopment Board)

ATTACHMENT “F”

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ARLINGTON REDEVELOPMENT BOARD

Arlington, Massachusetts
Middlesex, ss

DOCKET NO. 3386

REQUEST FOR SPECIAL PERMIT
Subject to
ENVIRONMENTAL DESIGN REVIEW

Applicant **WOOD PARTNERS 30-50 MILL STREET**
Date of Hearing 8/23, 9/13, 9/27, 10/4, 10/25, 11/8, 11/22, 12/6/10
Date of Decision Dec. 13, 2010
Date of Filing _____

Members

Approved

Handwritten signatures:
Christopher J. T.
[Signature]
[Signature]
Roland A. Chappell
Edward Tsoi

Opposed

Handwritten signature: Corinne M. Rainville
Town Clerk's Certification



TOWN OF ARLINGTON
MASSACHUSETTS 02476
781 - 316 - 3090

**DEPARTMENT OF PLANNING and
COMMUNITY DEVELOPMENT**

DECISION OF THE BOARD

EDR Docket #3386, 30-50 Mill Street
December 13, 2010

This decision applies to the special permit application by WP East Development Enterprises, LLC, which seeks a special permit subject to Environmental Design Review (EDR) to construct a 116 unit, multi-story, apartment building and a 1 story retail or office building and kiosk at 30-50 Mill Street. The site was the headquarters of Brigham's Ice Cream from 1968 to 2008. The applicant would demolish the existing buildings and construct a podium-style building above at-grade parking, associated utilities, compensatory flood storage mitigation, and drainage improvements.

The application filed petitions for various forms of relief to construct the above-referenced buildings and improvements with the Conservation Commission, the Arlington Redevelopment Board (hereinafter referred to as the "ARB", the "Redevelopment Board" or, simply, the "Board") and the Zoning Board of Appeals in March, 2010. Town staff convened a Development Review Team meeting with the applicant on April 6, 2010. A site visit with the developer and members of the Redevelopment Board and Zoning Board of Appeals was held in May, 2010. The Conservation Commission will issue its order of conditions after the other boards have issued their Decisions, consistent with the Massachusetts Wetlands Protection Act and the wetlands bylaw of the Town of Arlington. The Zoning Board of Appeals granted a variance for frontage and a height variance on July 6, 2010. The Redevelopment Board opened and continued the EDR Special Permit hearing by agreement with the applicant on April 12, 2010, to allow time for the Zoning Board of Appeals to render its decision (which occurred on August 20, 2010), since the effect of that decision would impact the plans subject to Environmental Design Review. The Board then continued the hearing and took testimony on August 23, 2010, September 13, 2010, September 27, 2010, October 4, 2010, October 25, 2010, November 8, 2010, and November 22, 2010.

The 3.87 acre site is bounded by the Minuteman Bikeway to the north, Arlington High School to the west, the Mill Brook and 22 Mill Street Office condominium building to the south, and Shattuck's Hardware and Mill Street to the east. The site is in a depression approximately 22' below the bike path, and much of the site is in the flood plain. For this reason, the main structure would be built on piers above at-grade parking.

Materials considered by the Board in rendering this Decision:

March 5, 2010 Memorandum from the Arlington Bicycle Advisory Committee to the ARB et al
March 15, 2010 Allen & Major Environmental Design Review Special Permit Application
April 2010 MS Transportation Systems/New England Engineering Group Traffic Impact Access Study
May 25, 2010 memorandum from Jeffrey Maxtutis, Transportation Advisory Committee Working Group to Arlington Redevelopment Board
June 16, 2010 Revision 1, Allen & Major Operations & Maintenance Plan

June 16, 2010 Revision 1, Allen & Major Drainage Report
 July 15, 2010 Director's Report from Carol Kowalski to the Arlington Redevelopment Board
 July 20, 2010 Letter from Ann LeRoyer to Carol Kowalski regarding the Brigham's site development
 July 21, 2010 Memorandum from Kurt Kelly, Arlington DPW to Town Engineer Michael Rademacher re. drainage
 Allen & Major 30-50 Mill Street 8-17-10
 Proposed Color Presentation Plan CPP-1
 Proposed Landscape Plan C-6a, Parking Area Landscape Exhibit EXH-1
 Open Space-Landscaped Exhibit EXH-2
 Memorandum from Cube 3 to Redevelopment Board August 18, 2010 re. Floor Area Ratio Calculations
 Open Space-Usable Exhibit EXH-3
 Shattuck Ace Hardware Store Parking Exhibit EXH-4
 Memorandum from WP East Development Enterprises LLC August 18, 2010
 Letter August 18, 2010 from Allen & Major to Rick Dickason re. access drive over the Mill Brook
 August 18, 2010 WP East Development Enterprises, Transportation Demand Management Plan
 Letter August 23, 2010 from William Scully, P.E., New England Engineering Group to Christopher Loreti
 September 3, 2010 memorandum from Joey Glushko to Carol Kowalski re. Useable Open Space
 Allen & Major 30-50 Mill Street September 7, 2010:
 Proposed Color Presentation Plan CPP-1
 Open Space-Landscaped Exhibit 9-8-10
 Revised Zoning Takeoffs, EXH-2,
 Open Space-Useable Exhibit, 9-8-10
 Revised Zoning Takeoffs EXH-3, Cube 3, Retail First Floor Plan A1-101, 9-8-10
 Cube 3, Exterior Building Elevations, A1-201, 9-8-10
 Cube 3, Exterior Building Elevations, A1-202, 9-8-10
 Cube 3 Parking Level Gross Square Footage Diagram, 9-13-10
 Cube 3 First Floor Gross Square Footage Diagram, 9-13-10
 Cube 3 Typical Floor Gross Square Footage Diagram, 9-13-10
 Cube 3 Loft Floor Gross Square Footage Diagram, 9-13-10
 September 13, 2010 Memorandum from Kurt Kelley, Arlington DPW to Town Engineer Michael Rademacher re. dewatering and stormwater
 September 2010 revised MS Transportation Systems/New England Engineering Group Traffic Impact Access Study
 September 12, 2010 email from Patricia Worden to Carol Kowalski
 September 20, 2010 letter, exhibits, and photos, Michael Fitzpatrick, DMD, 22 Mill Street
 September 23, 2010 Director's Report from Carol Kowalski to the Arlington Redevelopment Board
 September 27, 2010 Allen & Major JS-1 Jason Street Mass Ave intersection plan
 September 27, 2010 letter from 22 Mill Street Condominium Association to Arlington Redevelopment Board
 October 20, 2010 Allen & Major Revision 2, (ABB-1, EX-1, C-1, C-2, C-3, C-4, C-5, C-6A, C-6B, C-7, C-8, D-1, D-2, D-3, D-4, D-5, D-6, D-7, D-8, A-100, A-101, A-102, A-103, A-104, A-105, A-081)
 October 21, 2010 memorandum from Carol Kowalski, Director of Planning to Joseph Curro, Chairman, School Committee,

October 22, 2010 memorandum from Arlington Transportation Advisory Committee Working Group to Arlington Redevelopment Board
 October 25, 2010 Design and LEED update slide presentation
 October 25, 2010 Parking and Unit Mix table, Laura Wiener
 October 27, 2010 Allen & Major Revision 3 (ABB-1, EX-1, C-1, C-2, C-3, C-4, C-5, C-6A, C-6B, C-7, C-8, D-1, D-2, D-3, D-4, D-5, D-6, D-7, D-8, A-081, A-100, A-101, A-102, A-103, A-104, A-105, A-201, A-202, A-301, A-302)
 October 28, 2010 revisions to Allen & Major CPP-1, EXH-1, EXH-2, EXH-3, EX-5
 October 28, 2010 letter from Joseph Curro, Chairman, Arlington School Committee to Carol Kowalski
 November 3, 2010 memorandum from WP East Development Enterprises LLC to Arlington Redevelopment Board re. updated plans reflecting changes requested by the Board
 November 8, 2010 Memorandum from Cube 3 Studio to Arlington Redevelopment Board re. revised Floor Area Ratios with revised Gross Square Footage Diagrams and Elevations
 November 8, 2010 Cube 3 Studio Proposed Materials sheet
 November 11, 2010 Allen & Major EXH-6, sample paving types sheet
 Architectural Area Lighting cut sheet stamped received November 17, 2010
 November 17, 2010 Allen & Major Revision 4 (ABB-1, EX-1, C-1, C-2, C-3, C-4, C-5, C-6A, C-6B, C-7, C-8, D-1, D-2, D-3, D-4, D-5, D-6, D-7, D-8, A-081, A-100, A-101, A-102, A-103, A-104, A-105, A-201, A-202, A-210, A-301, A-302, A1-101, A1-201)
 November 21, 2010 Memorandum from Arlington Transportation Advisory Committee to Arlington Redevelopment Board
 November 22, 2010 Memorandum from Chief Robert Jefferson
 2004 lease between Brigham's and 22 Mill Street for parking on the Brigham's premises

FINDINGS OF THE BOARD

Section 10.11a-1 The uses requested are listed in the Table of Use Regulations as a Special Permit use in the district for which application is made or is so designated elsewhere in this Bylaw.

The applicant originally proposed an apartment building and a retail use. The apartment use, which is Use 1.05 in Section 5.04 Table of Use Regulations, requires a special permit, as does the retail building of 3,500 square feet, Use 6.16 in Section 5.04 Table of Use Regulations. The applicant subsequently requested permission for professional/medical offices at the site as well as limited parking on the site by employees of the 22 Mill Street office condominium. The proposed professional/medical office use is listed in the table of Use Regulations as Use 6.20 in Section 5.04. The proposed parking by the 22 Mill Street office condominium, which is Use 5.06 in Section 5.04 Table of Use Regulations, also requires a special permit.

The applicant has designed the development to acknowledge and incorporate the bikepath and bikepath users. To this end, the developer and the Board agree that both the kiosk and the retail building will reflect this intentional association with the bikepath to distinguish this development as a unique place. The developer and Board agree, as set out in Special Condition 10 hereinbelow, that certain uses shall be allowed without reopening the special permit and certain uses shall not be allowed absent reopening the special permit and the approval of the Board.

The Board finds that Standard 10.11a-1 of the bylaw has been met.

Section 10.11a-2 The requested use is essential or desirable to the public convenience or welfare.

A range of uses are allowed at this site under the Arlington Zoning Bylaw. The Koff Associates' Development Sites Assessment undertaken for the Town in 2009, as part of the Commercial Development study, contemplated the former Brigham's site and concluded that residential development was the most likely potential use for the site. Lack of highway and subway access make it undesirable for office use or big box retail. Furthermore, the lack of tourist demand, universities, or large employers nearby limits the demand for hotel use, according to the Koff Study. The ABC Study by City Design Collaborative in 1995 recommended a rezoning from Industrial to Business 5 in order to expand the Arlington Center commercial district to include the Brigham's Site. The site was subsequently re-zoned to B2A, which allows for residential development.

The 2004 Housing Strategy Plan recommended that under-utilized sites be inventoried to identify opportunities to expand affordable housing. As detailed in Special Condition 9, the proposed residential use will produce 17 affordable rental apartments under Arlington's inclusionary zoning bylaw at Section 11.08, which is desirable.

The proposed retail or office use on the site is important in reinforcing the retail presence of Shattuck's Hardware Store on Mill Street. The retail use also encourages a mixed-use (residential mixed with retail) approach that many in the Arlington community see as favorable. The possible medical office use would complement the successful medical office use at 22 Mill Street.

Affordable housing, and siting housing near the bikepath to reduce vehicle trips are both desirable. The Board finds this standard is met.

Section 10.11a-3 The requested use will not create undue traffic congestion, or unduly impair pedestrian safety.

The applicant submitted a traffic impact and access study prepared by MS Transportation Systems/New England Engineering Group. As provided in Special Condition 3, it is proposed that vehicles will enter and exit the site from Mill Brook Drive, via an easement across the culvert owned by the 22 Mill Street office condominium, and the driveway connecting the site to Mill Street is proposed to be one-way, egress-only to Mill Street.

The Arlington Transportation Advisory Committee (TAC) reviewed the study and prepared a memorandum to the Board dated May 25, 2010. TAC met with Bill Scully, P.E. from New England Engineering Group on September 7, 2010. TAC requested an updated traffic impact study addressing issues that TAC had identified, and requesting that the developer propose offsite mitigation. As set out in Special Condition 4, the proposed mitigation includes a flashing warning beacon at the intersection of the bikepath and Mill Street activated by sensing the presence of pedestrians or bicycles on the bikeway. Additional mitigation proposed includes two signs instructing drivers not to block the intersections of Mill Brook Drive and the access drive with Mill Street, as set out in Special Condition 3.

The former use of the site as offices, a manufacturing plant and restaurant, which were open from early morning until late evening, caused continuous short traffic trips to and from the site throughout the day. The number of trips generated by a residential use of the site versus its former use will decrease. The traffic impact report and the traffic simulation prepared by New England

Engineering Group found that future operating conditions of the study area intersections would not change significantly.

The Board finds based upon the evidence presented that the proposed development will not create undue traffic congestion or unduly impair pedestrian safety. The Board finds that this standard has been met.

Section 10.11a-4 The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety, or the general welfare.

The Town Engineer has reviewed the drainage plans for the proposed development. The Town Engineer also asked the developer to undertake water flow tests and pressure tests and to do flow calculations. Together, the Town Engineer's memoranda of July 21, 2010, and September 13, 2010, and the applicant's drainage study establish that there is sufficient capacity in the Town's water and sewer system, and that stormwater management plans are acceptable.

Further, the information provided by the applicant's engineers indicates that the impact of the proposed project on the public water and sewer system will actually be less than the prior uses at the site.

The Board finds this standard has been met.

Section 10.11a-5 Any special regulations for the use, set forth in Article 11 are fulfilled. The special regulations in Article 11 applicable to the development are 11.05, Inland Wetland District, 11.06, Environmental Design Review, and 11.08, Affordable Housing Requirements.

The Zoning Board of Appeals heard testimony on the application for a special permit under 11.05, Inland Wetland District and granted the permit based upon the plans presented at the time. The Zoning Board of Appeals will be asked by the developer to revise its decision, taking into consideration the change to the building footprint that was made by the developer during Environmental Design Review.

The developer has agreed to comply with Section 11.08, Affordable Housing Requirements, as set out in Special Condition 8.

The Board finds that this standard is met with respect to Sections 11.05 and 11.08 of the Bylaw. The Environmental Design Review standards of Section 11.06 are evaluated below.

EDR-1 Preservation of Landscape: The landscape shall be preserved in its natural state insofar as practicable, by minimizing tree and soil removal and any grade changes shall be in keeping with the general appearance of neighboring developed areas.

The current site is covered almost entirely by building or paving. Paving is proposed to be reduced by approximately .75 acre. The proposed development will retain the existing trees between the lot and the bike path on the north side, eight existing trees will be maintained along the west/southwest edge of the lot, and two existing trees in the southeast corner will be retained. The grade changes steeply behind Shattuck's hardware store, and will be re-graded. Re-grading in the southwest corner will create a storm water control area to the north and introduce significantly more landscaping, as well as some landscaped areas within the parking lot.

As set out in Special Conditions 13 and 14, the developer proposes to remove asphalt paving that extends from the former Brigham's parking lot into the Town-owned pocket park near the Mill Brook, and to replace light fixture heads and benches at the Town-owned park near the Mill Brook. The Town will have responsibility for the maintenance of the pocket park upon completion of the park improvements by the applicant.

Parking landscaping meets 8.12b(5) of the bylaw by extending landscaped area into the parking area.

The Board finds this standard has been met.

EDR-2 Relation of the Building to the Environment: Proposed development shall be related harmoniously to the terrain and to the use, scale and architecture of the existing buildings in the vicinity that have functional or visible relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing so as to reduce the effect of shadows on the abutting property in an R-1 or R-2 district or on public open space.

The applicant proposes a single multi-story building (original plan called for four stories above a parking story) and a single story retail/office building. The slope of the property and siting of the proposed footprint on the plans give the effect of the building receding from view into the site, except for the upper stories and the roof. From Mill Street, the parking level will not be visible due to a 13' grade drop. Four levels above one parking podium were mitigated by a flat roof and step-downs to three stories above the parking in some areas. The building will appear to rise only 46' 7" as viewed from Mill Street, and at a distance of 120' from the Mill Street sidewalk. The revised, final plans reduce the visual impact of the building mass from the High School, Mill Street, the Minuteman Bikeway, and Mill Brook Drive. The proposed building is set back a minimum of 42" from the bikepath, whereas the existing structure actually encroaches into the right-of-way for the bikepath.

The multi-story apartment building will be of distinctly different architecture than the adjacent brick former mill buildings, and would be clad in lap siding and fiber cement panel as well as a stucco finish in some areas at the parking level. This differs from the brick finish material of most of the prominent buildings on both sides of Mill Street to the east, 22 Mill Street bounding the south, and Arlington High School at a distance to the west. This difference in proposed finish materials is appropriate, and will distinguish the project's construction from the historic brick former mill structures and the high school. The flat and varied rooflines and cornices break up the mass of the building. Deep relief and heavy profile in architectural detail also help to relieve the effect of the massing. Further, the proposed project will generally cast less shadow on the abutting properties and on the Minuteman Bikeway than the existing building. The applicant produced a shadow study depicting the shading effect on the Bikeway at 9:00 am, 12:00 pm and 3:00 pm in July and January. Because the buildings proposed are substantially set back from the Bikeway, the net shadowing effect on the Bikeway is reduced.

The proposed retail/office building is an acceptable use near the bikepath and Shattuck's hardware store.

The Board finds this standard has been met.

EDR-3 Open Space: All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing by the site

or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility and facilitate maintenance.

Currently there is no existing usable open space on the site, as none was required for the former uses. As set out in Special Condition 11, the proposal creates a publically-accessible landscaped open space of roughly 700 square feet near the bike path and retail store, linked by a publically accessible walking path through the site to the Town-owned pocket park adjacent to the Mill Brook. The applicant proposes to improve the Town-owned park, for which the School Committee has granted permission. Publicly-accessible open space is not required, but is certainly desirable in this location near the Mill Brook, the High School, and adjacent to the bikepath.

An amount equivalent to 10% of the Gross Floor Area is required for landscaped usable open space. An area equivalent to 61% of the GFA is proposed. As such, the open space provided exceeds the requirement. The Board finds this standard met.

EDR-4 Circulation: With respect to vehicular and pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 8.13 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.

The Arlington Transportation Advisory Committee acted, at the Board's request, as a peer-reviewer of the developer's Traffic Impact and Access Study.

The applicant proposes one-way use for the drive-way off Mill Street. This drive will be "egress-only" as set out in Special Condition 3. An agreement between the developer and the 22 Mill Street owners on the future repair and maintenance of the culvert bridge as set out in Special Condition 22 will address future aesthetic and structural concerns. As set out in Special Conditions 2, 3, 4, 5, 6 and 23, the applicant proposes to mitigate traffic impacts as follows: (1) signage at the intersection of Massachusetts Avenue, Mill Street and Jason Street; (2) signage at the intersection of Mill Brook Drive and the access drive with Mill Street; (3) a flashing beacon at the intersection of Mill Street and the bikepath; (4) pedestrian warning mitigation at the sidewalk intersecting the site drive exit; and (5) provision of an "opticom" at the traffic signal of Mill Street and Summer Street for control by emergency vehicles. The Board finds this standard has been met.

EDR-5 Surface Water Drainage: Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. Available Best Management Practices for the site should be employed, and include site planning to minimize impervious surface and reduce clearing and re-grading. Best Management Practices may include erosion control and stormwater treatment by means of swales, filters, plantings, roof gardens, native vegetation, and leaching catchbasins. Stormwater should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected in intervals so that it will not obstruct the flow of vehicular or pedestrian traffic and will not create puddles in the paved areas.

In accordance with Section 10.11,b, the Board may require from any applicant, after consultation with the Director of Public Works, security satisfactory to the Board to insure the maintenance of all stormwater facilities such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the applicant fails to do.

The Board may adjust in its sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for any future maintenance needs. The Town Engineer reports that he accepts the developer's information provided showing that there is sufficient capacity in the Town's water and sewer system. The Town Engineer's memoranda accept both stormwater management plans, and finds that the plans provide for sufficient water and sewer capacity. The Board agrees to require financial security as described in Special Condition 25.

The Board finds this standard has been met.

EDR-6 Utilities Service: Electric, telephone, cable, TV, and other such lines of equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.

Gas and water lines are indicated on the plan. Electricity, telephone and data transmission lines are proposed to be overhead through the driveway from Mill Street, and then underground from the existing service terminus. The placement of utilities is subject to the final approval of the utility providers. Any deviation from the approved plans shall be submitted to the Board. A trash compacter serving the residential building is proposed under the building within the podium parking area.

The Board finds this standard has been met.

EDR-7 Advertising Features: The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties.

The developer did not apply for sign approval with this application. Sign details are subject to a Board review and approval of location, number, size, placement and lighting of future proposed signage, approval of which shall be considered by the Board as a future amendment to this permit at a duly advertised and noticed public hearing, as set out in Special Conditions 18 and 19. Subject to such future application and Board approval, the Board finds this standard has been met.

EDR-8 Special Features: Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.

The plans submitted include the location of trash disposal, truck loading area and rooftop HVAC units and provide for appropriate screening. Final approval of these features to demonstrate consistency with the plans reviewed and approved during the hearings shall be made by the Board upon review of the detail drawings at 100% of design, including details of screening of special features and landscaping details. The Board finds this standard is met.

EDR-9 Safety: With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.

The proponent has reported that the Fire Chief is now satisfied with the plans, and will provide a letter to the Board.

Snow that can be accommodated on site shall be placed in the areas designated by the Conservation Commission. Snow that cannot be accommodated in these areas on site shall be removed off site. Hydrants are shown on the plan and were located in consultation with the Fire Chief.

The publically accessible path from the bikeway to the site will be illuminated at night for safety. The Board finds this standard has been met.

EDR-10 Heritage: With respect to Arlington's heritage, removal or disruption of historic, traditional, or significant uses, structures or architectural elements shall be minimized insofar as practical whether these exist on the site or on adjacent properties.

The Brigham's manufacturing buildings are not on the Town's inventory of historically significant buildings; they are not subject to the demolition delay bylaw. The building's close proximity to the railroad was intentional for ease of loading freight and delivery of goods to and from the site. As this functional relationship between the building and the railroad has long been abandoned, it is appropriate to provide separation and greater distance between the new use as residential apartments and the contemporary use of the rail-bed as a bikepath.

There are no architecturally significant features of the existing buildings that are necessary or desirable to preserve or reflect in the architecture of the new building.

The properties at 6 Mill Street and 29 Mill Street are listed in the inventory of historic properties. The proposed development will not be visible to the public from 6 Mill Street. The apartment building at 17 Mill Street was constructed in 1982. The altered ca. 1880 Victorian at 29 Mill Street is noted in the Arlington Historical Commission 1976 publication, "Mill Brook Valley: A Historical and Architectural Survey". The proposed development will not disrupt or affect the remaining historic features evident in the 29 Mill Street structure.

The Board finds this standard is met.

EDR-11 Microclimate: With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard surface, ground coverage or the installation of machinery which emits heat, vapor or fumes shall endeavor to minimize insofar as practicable, any adverse impacts on light, air and water resources or on noise and temperature levels of the immediate environment.

The proposed development will reduce the amount of impermeable surface on the site, thereby reducing the heat-island effect. The HVAC equipment is to be located on the roof of the residential building and is expected to emit about 76 decibels. Mounted at the roof height of approximately 60 feet, this decibel level will be further reduced. The site is relatively large and the equipment will be roof-mounted so heat, vapor, or fumes will not be detectable. As set out in Special Condition 15, no equipment mounted on the roof of any building on the site is proposed

to extend beyond the eaves or be visible from the public view. The developer will include details of screening of rooftop equipment at the Board's 50% review.

The Board finds this standard is met.

EDR-12 Sustainable Building and Site Design: Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project. The applicant submitted a LEED for Homes Checklist.

Sustainable sites.

The subject property is an excellent site for redevelopment. The existing site is already fully developed, and its redevelopment will include removing paved surface and replacing some of it with pervious, landscaped areas. The existing site has sewer and utility service already available.

The existing site is well located, near basic services, including the Town Hall, Library, Senior Center, public schools, and restaurants and shops, including a food market, hardware store, pharmacy, and medical offices. It has excellent access to public transportation, with bus access to the MBTA Red Line at Alewife and Harvard Stations. It abuts the Minuteman Bikeway, which also provides access to the Red Line at Alewife Station, as well as other locations in Arlington and Lexington, for pedestrians and bike riders.

Because of its excellent access to pedestrian, bicycle and public transit facilities, this is a good location for Transportation Demand Management practices, and the applicant has submitted a Transportation Demand Management Plan that satisfies the Transportation Advisory Committee, as set out in Special Condition 7. The proposed shared parking arrangement with 22 Mill Street condominiums and the proposed bicycle amenities for tenants and the public also satisfy this standard.

Water efficiency.

Drainage and flood storage will be improved over the existing conditions on the site. The developer has proposed water efficiency strategies including water saving devices within the units, and native plant species for landscaping to reduce need for irrigation.

Energy and Atmosphere.

The applicant has stated that it will build into the development measures that will use less energy for heating and cooling, such as insulation and high efficiency HVAC systems, and energy star rated appliances. Applicant will meet the Town's new Building Stretch Code.

Materials and Resources.

The applicant will make efforts to use materials efficiently and reduce construction waste diverted to landfills.

Indoor Environmental Quality.

The applicant has taken some measures to ensure environmental quality, such as providing fans for fresh air and isolation of the garage from interior spaces.

The developer agrees to employ full cut-off, fully shielded exterior site and building lighting to prevent light pollution, off-site light trespass and glare, as set out in Special Condition 16.

The Board finds this is standard met.

Section 10.11a-6 The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health, morals, or welfare.

The requested uses, multi-family residential and retail or professional offices, exist in the district and will not alter the integrity or character of the district. Activity from the neighboring Arlington High School campus and Minuteman Bikeway will exert a pronounced public-oriented influence on the experience of living in this residence. This is reflected by the proposed allowance for public access across the site from the pavilion park in the northeast corner of the site, adjacent to the bikeway at the proposed kiosk, to the pocket park, as set out in Special Condition 11, and in the design of the parking to include bicycle parking. The Board finds this standard has been met.

Section 10.11a-7 The requested use will not, by its addition to a neighborhood, cause an excess of that particular use that could be detrimental to the character of said neighborhood.

The proposed residential and retail/office uses will not create an excess of either to the detriment of the neighborhood. The new residents and employees will support area retail on Mill Street, Summer Street and Massachusetts Avenue. The Board finds this standard is met.

DECISION

The Board finds that the proposal is an appropriate re-use of the property, and grants the following special permits, subject to the following general and special conditions:

Special permit for Use 1.05 Apartment House from the Table of Use Regulations (section 5.04 of the Zoning Bylaw);

Special permit for Use 5.06 Commercial off-street parking, Table of Use Regulations;

Special permit for retail Use 6.16 Retail, Table of Use Regulations;

Special Permit for Use 6.20 Office; Table of Use Regulations.

General Conditions

1. The final plans and specifications for the site, including all buildings, signs, exterior lighting, and landscaping shall be subject to the approval of the Arlington Redevelopment Board for consistency with the plans reviewed and approved during the hearings. The Board shall maintain its jurisdiction over plans and specifications by approving them at 100% of completion. At the time of submission of the 50% drawings, the Applicant shall submit for approval:

- a. Samples of exterior materials proposed for the building, including colors, and other features that comprise the details of the final design
- b. Exterior Lighting Plan
- c. Landscaping Plan, including details on size and species of plantings
- d. Details of screening of rooftop equipment
- e. Wayfinding and other signage for the residential, office and retail uses.

2. The final plans and specifications approved by the Board for this permit shall be the final plans and specifications submitted to the Building Inspector of the Town of Arlington in connection

with this application for building permits. There shall be no substantial or material deviation during construction from the approved plans and specifications without the express written approval of the Arlington Redevelopment Board.

3. Snow removal from all parts of the site, as well as from any abutting public sidewalks, shall be the responsibility of the owner or occupant and shall be accomplished in accordance with the Town bylaws.

4. All exterior trash and storage areas on the property shall be properly and continuously screened and maintained in accordance with the Bylaws of the Town of Arlington.

5. Trash shall be picked up only on weekdays and only between the hours of 7:00 am and 6:00 pm, Monday through Friday.

6. No final or permanent Certificate of Occupancy shall issue on this project until the project is completed in its final form and approved by the Redevelopment Board as being in compliance with the final plans and specifications, including the landscape plan, except as provided in special condition 22. If the improvements referenced in Special Conditions 3, 4, 5 and 6 remain incomplete as provided in special condition 22 below, a temporary certificate of occupancy shall be issued for this project.

7. The Building Inspector is hereby notified that he is to monitor the site and should proceed with appropriate enforcement procedures at any time he determines that violations are present. The Inspector of Buildings shall proceed under Section 10.09 of the Zoning Bylaw, pursuant to the provisions of Massachusetts General Laws, Chapter 40A Section 21D, and institute non-criminal complaints. If necessary, the Inspector of Buildings may institute appropriate criminal action also in accordance with Section 10.09.

8. Subsequent to the end of all applicable appeal periods and prior to the issuance of a Building Permit, the Applicant shall record this Decision in the Middlesex County South District Registry of Deeds and shall provide the Board, and the Building Inspector with a copy of this Decision endorsed with the applicable recording information.

9. The Board maintains continuing jurisdiction over this permit, and may, after a duly advertised public hearing, attach other conditions, including but not limited to, reasonably restricting the retail opening hours, or it may modify these conditions as it deems reasonably appropriate to protect the public interest and welfare.

Special Conditions

1. The required number of parking spaces is 142. The total number of spaces is limited to 173, and 12 spaces shall be dedicated to the retail/office building. This Decision grants approval for up to 23 spaces to be leased to the owners of 22 Mill Street for their exclusive use by employees, provided that the owners of 22 Mill Street agree to (1) remove the two paved-over spaces at the northwest corner of the 22 Mill Street parking deck and install or restore the landscaping shown on the approved final plan for the 22 Mill Street Special Permit, (2) restore its on-site loading space and (3) shield or move its dumpsters. The spaces are to be marked or assigned for use only by employees of 22 Mill Street.

2. Not more than one parking space shall be included with the rent for any single unit.
 3. The access driveway on Mill Street shall be one-way egress only, with Do Not Enter and One-Way signs, with additional visual and audible warnings for pedestrians that are in compliance with the Americans with Disabilities Act. Not more than two signs shall be erected instructing motorists not to block the intersections of Mill Street and the driveway, and Mill Street and Mill Brook Drive. Wording and location of all signage and devices shall be subject to approval by the Redevelopment Board, Transportation Advisory Committee and the Board of Selectmen.
 4. Subject to approval by the Board of Selectmen, and any other agency with jurisdiction over the bikeway, flashing beacons shall be installed at both Bikeway approaches (flashing red) and Mill Street approaches (flashing yellow) mounted on poles, one for each direction. The flashing beacons shall be activated by detection equipment only when a Bikeway user (pedestrian or cyclist) approaches Mill Street. The detection equipment shall be provided on both Bikeway approaches, subject to a design that is approved in sequence by the TAC, DPW, the Redevelopment Board, and Board of Selectmen, and shall minimize false detection calls. The system shall be installed and shown to operate satisfactorily for a minimum of one calendar year with an escrow fund of \$10,000 established by the Developer for any necessary operational improvements to the beacon warning system.
 5. The TAC and DPW shall design, subject to approval by the Board of Selectmen, one dedicated left turn lane and one shared through-right turn lane on the southbound Mill Street approach to the Massachusetts Avenue intersection. Developer shall provide not more than two signs indicating the lane restrictions in support of this.
 6. Subject to the approval of the Board of Selectmen, the developer shall provide an "Opticom" emergency vehicle detection system at the traffic signal at Summer and Mill Streets, for installation by the Town, to allow emergency vehicles to control the signal, to be maintained by the Town.
 7. Developer shall implement Transportation Demand Management practices in accordance August 2010 Transportation Demand Management plan filed with the approved plan.
 8. The proponent shall provide the Town with analysis results (hard copy and electronic) and computer simulated models known as "Synchro" files, showing the improved signal timing and phasing at Massachusetts Avenue/Mill Street/Jason Street/Summer Street. Further, the proponent will detail the recommended signal timing and phasing improvements at Massachusetts Avenue/Mill Street/Jason Street signal and the Mill Street/Summer Street signal for the Town to implement.
 9. The Project shall comply with the requirements of Section 11.08 – Affordable Housing Requirements of the Zoning Bylaw dated April, 2010, the requirements of the Local Initiative Program, as set forth at 310 CMR 45.00 and the conditions set forth below. In the event of a conflict between the requirements of the conditions set forth below and the Local Initiative Program (LIP) regulations, the LIP regulations shall govern.
- The Affordable Units in this Project shall include a minimum of three (3) studio units, five (5) one-bedroom units and nine (9) two-bedroom units.

At least sixty (60) days prior to the issuance of a building permit, the Applicant shall provide an Affordable Housing Plan locating the affordable units that, at a minimum, demonstrates compliance with the Arlington Zoning Bylaw Subsection 11.08(d)(4)(c). The plan is subject to review and approval by the Arlington Director of Housing.

At least sixty (60) days prior to issuance of a Certificate of Occupancy, the Applicant shall submit a marketing plan, as required by Subsection 11.08(f)(4), and a resident selection plan for review and approval by the Director of Housing.

To the extent allowed by law, preference for up to seventy percent (70%) of the Affordable Units shall be given to local residents for as long as the units exist.

At least sixty (60) days prior to issuance of a building permit the Applicant shall submit a draft affordable housing restriction and any additional documents required by the Local Initiative Program for review and approval by the Director of Housing.

The Affordable Units shall be affordable in perpetuity or the maximum time allowed by law but no less than ninety-nine (99) years.

In the event all or part of the Project is converted to a condominium form of ownership, conditions numbered 1-7 continue to apply and the items listed below shall be required:

At least sixty (60) days prior to conversion, submission of the condominium documents and the documents required by the LIP Program for review and approval by the Director of Housing.

a. The condominium documents shall provide for one vote per unit unless otherwise required by M.G.L. c. 183A.

b. The condominium documents shall provide that each unit owner's beneficial interest in the condominium shall be based on the owner's percentage beneficial ownership interest as provided by M.G.L. c. 183A.

10. The developer designed the project to acknowledge, complement and incorporate the bikepath and bikepath users in the development. To this end, the developer and the Board agree that both the kiosk and the retail/office building will reflect this intentional association with the bikepath to distinguish it from other places. Personal consumer uses permitted under paragraphs 6.08, 6.16, 6.17 and 6.20 of Article 5, Section 5.04 of the Bylaw, which are not specifically excluded hereinbelow, shall be permitted, including without limitation, retail store, coffee/ice cream shop, medical or professional office, sandwich shop, home or garden goods, bicycle service and ATM, provided that the ATM is an accessory use by a commercial/retail tenant for convenience of its customers and not a separate stand-alone use.. Uses that shall not be permitted at the site shall include: convenience store, fast-food, pizza shop, bank, ATM, fast-food style national chain store, laundromat and/or nail salon. If the applicant seeks to incorporate a use specifically excluded herein, it shall submit a request to reopen the special permit.

11. Unless and until this decision is amended by the Board, public access shall be allowed in perpetuity from the pavilion park across the site to the Town-owned pocket park by the applicant and its successors in interest. The publically-accessible path from the pavilion park to the site shall be illuminated at night for safety.

12. Upon installation of landscaping materials and other site improvements on the premises, the developer shall remain responsible for such materials and improvements, and shall replace and repair such as necessary, to remain in compliance with the approved site plan.

13. The developer shall replace two benches and up to a maximum of six light heads in the Town-owned pocket park along the Mill Brook adjacent to the 30-50 Mill Street property on the southwestern edge of the development at developer's expense. The Town will be responsible for maintenance of these improvements after installation.

14. The developer, provided the Town assents, shall remove asphalt pavement in the Town-owned pocket park along the Mill Brook at developer's expense and restore with native soil and plant material. The Town thereafter shall maintain the pocket park.

15. No pipes or other equipment shall protrude above the roof of the retail building except for ordinary ventilation pipes.

16. All exterior site and building lighting shall employ full cut-off, fully shielded fixtures to prevent light spillover, glare and sky glow.

17. The developer shall return to the Board for review at the 50% design stage for the design of the kiosk.

18. No vending machines, product advertisement, or off-site advertising are allowed at the pavilion park or associated with the exterior of the retail/office building or kiosk.

19. Signage other than traffic mitigation shall be presented for approval by the Board by amending the Special Permit following a duly advertised and noticed public hearing.

20. At the time of demolition, all existing Brigham's and other defunct signs and supporting structures, excluding the retaining wall, shall be removed.

21. The developer shall make cosmetic improvements to the culvert bridge, including lighting, paving, railings and signage, as proposed in the plans.

22. The developer shall enter into an agreement with the unit owners association of 22 Mill Street Condominium for the long-term maintenance and repair of the culvert bridge providing access to the site.

23. The applicant shall provide the requisite information to the Board, Transportation Advisory Committee and Board of Selectmen for the signage, warning devices and opticom system referenced in Special Conditions 3, 4, 5, and 6. Installation of the signage and warning devices and delivery of the opticom system may be delayed due to the approval process. The certificate of occupancy for the project shall not be withheld due to the delay in installation resulting from obtaining the requisite approvals or any delay in delivery of the systems for installation. Accordingly, a temporary certificate of occupancy may be issued by the building inspector in the event special conditions 3, 4, 5 and 6 are not completed at the time the residential and commercial buildings are ready for occupancy.

24. In the discretion of the building inspector, a temporary certificate of occupancy may be issued in general accordance with the phasing plan on file with the Board to accommodate the fit-out of the interior of the building. All residential construction shall be completed within 150 days of the issuance of the temporary certificate of occupancy. The building inspector may also issue a temporary certificate of occupancy for the retail plaza space.

25. In accordance with Standard EDR-5, the applicant is required to post a bond in the amount of \$1,500 as security that the storm drain system will be maintained in good working order. The Board may use the funds to conduct cleaning and maintenance of the system if the applicant fails to do so. Town personnel, or the Town's agents, may enter upon the property to perform such cleaning and maintenance.

ATTACHMENT “G”



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Page: 1 of 9 09/10/2013 09:56 AM



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ARLINGTON REDEVELOPMENT BOARD

Arlington, Massachusetts
Middlesex, ss

DOCKET NO. 2911

REQUEST TO RE-OPEN SPECIAL PERMIT
Subject to
ENVIRONMENTAL DESIGN REVIEW

Applicant

Date of Hearing July 29, 2013, August 19, 2013

Date of Decision August 20, 2013

Date of Filing August 29, 2013

Members

Approved

Christopher A. Scapone
Andrew B. Warr

Opposed

Town Clerk's Certification

Leone & Leone
Attorneys At Law
637 Massachusetts Avenue
Arlington, MA 02476
617 678 826



ARLINGTON REDEVELOPMENT BOARD

TOWN HALL ARLINGTON, MASSACHUSETTS 02476

TELEPHONE 781-316-3090

DECISION OF THE BOARD

EDR Docket #, 319 Broadway
August 20, 2013

This decision applies to the application to re-open a Special Permit filed by Attorney John Leone for Bob O'Guin, proprietor of the Common Ground restaurant, 87 Harvard Avenue, Allston, MA 02134, for the restaurant space at 319 Broadway owned by Triton Realty Trust, Boston, MA for a full-service, 106-seat restaurant and 90-seat function room with seasonal outdoor seating in Broadway Plaza. The EDR Special Permit was originally issued to Au Bon Pain in 1994. Subsequently, Krazy Karry's restaurant operated in the space, and most recently, the Gemma restaurant operated at this address. The request to re-open the Special Permit is necessitated by the applicant's request to increase the number of required parking spaces that the original Special Permit allows to be met in Town parking lots under Section 8.11 of the Arlington Zoning Bylaw. This increase is triggered by the additional seating proposed beyond the original 80 seats inside and 20 seats outside granted by the Special Permit to Au Bon Pain. * deed: 20673-426

The zoning bylaw requires one parking space per four seats; outdoor seasonal seating is not subject to parking requirements. The proposed interior seating in the two combined spaces is 196 seats, yielding a requirement for 49 parking spaces, of which 20 are already allowed by the original Special Permit to be met on Town parking lots. The request is to allow the required 29 additional parking spaces to be met using Town lots.

The hearing opened on July 29, 2013 and was continued to August 19, 2013. The Board took public comments at the July 29, 2013 meeting and closed public comment on that date, while continuing to consider written comments through August 19.

Materials considered by the Board in rendering this Decision:

July 12, 2013 Plan Sheet A200, Connor Architecture
July 12, 2013 Plan Sheet A300, wall specifications, Connor Architecture
July 23, 2013 letter to the Board from abutters A. Michael Ruderman and Susan C. Ruderman
July 25, 2013 letter to Board Chair Michael J. Cayer from abutter Kathleen Morris
July 26, 2013 Page 2 of corrected letter, Attorney Robert Annese
July 26, 2013 Memorandum to the Redevelopment Board, Attorney Robert Annese for Bob Mirak
July 26, 2013, email to the Board from abutter Kenneth Putney
July 29, 2013 letter to the Board from Arlington resident Jay Anderson
July 29, 2013 letter to the Board from Alana Olsen, Executive Director, Allston Village

August 1, 2013 letter to the Board, Attorney Robert Annese
 August 19, 2013 undated email to the Board, Michael Ginns
 August 14, 2013, email message to the Director of Planning & Community Development for the Board, Julie and Bob Kalustian
 August 15, 2013, email message to the Director of Planning & Community Development for the Board, Corrinne Vercillo, Roger Hickey
 August 19, 2013 Plan Sheet A700, Connor Architecture
 August 19, 2013, Parking Mitigation Plan, Bob D. O'Guin, Jr. / Common Ground Arlington
 May 20, 2013 Memorandum to the Board of Selectmen, Arlington Transportation Advisory Committee
 August 15, 2013 Parking Assessment, Howard Stein Hudson

FINDINGS OF THE BOARD

Section 6.08 **The alteration or addition is in harmony with other structures and uses in the vicinity. In making its determination, the Special Permit Granting Authority shall assess, among other relevant facts, the dimensions and setbacks of the proposed alteration or addition in relation to abutting structures and uses and determine its conformity to the purposes set forth in Article 1, Section 1.03, of the Zoning Bylaw.**

The Board finds the proposal is in harmony with other structures and uses in the vicinity.

Section 10.11a-1 **The uses requested are listed in the Table of Use Regulations as a Special Permit use in the district for which application is made or is so designated elsewhere in this Bylaw.**

The use, restaurant over 2,000 square feet is allowed by Special Permit . The Board finds that Standard 10.11a-1 of the bylaw has been met.

Section 10.11a-2 **The requested use is essential or desirable to the public convenience or welfare.**

The use as a restaurant/pub and the addition of a special event function room in Arlington Center are desirable to reoccupy the vacant business space, and to serve a menu not otherwise offered. The business will be open from 11:00am to 12:00 midnight, which hours may help to serve theatre patrons and keep their business in Arlington. The Board finds this standard is met.

Section 10.11a-3 **The requested use will not create undue traffic congestion, or unduly impair pedestrian safety.**

The prior restaurants at this location, Gemma and Krazy Karry's, appear to have operated restaurants with 80 interior seats and seasonal outdoor seating without causing undue traffic congestion. The applicant presented a plan to mitigate automobile transportation by employees and parking demand of both customers and employees. The Board's approval was granted contingent on that Mitigation Plan being implemented, and it is incorporated into this Decision.

Broadway Plaza is designed for pedestrian use and currently supports two restaurants and a café, with many additional restaurants operating in the vicinity in Arlington Center. The prior restaurant had a permit for outdoor seating for 5 tables, which did not affect pedestrian safety.

The Board finds this standard has been met.

Section 10.11a-4 The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety, or the general welfare.

There is capacity in the existing water and sewer system to meet the demands of the restaurant. The Board finds this standard has been met.

Section 10.11a-5 Any special regulations for the use, set forth in Article 11 are fulfilled. The Environmental Design Review standards of Section 11.06 are evaluated below.

EDR-1 Preservation of Landscape: The landscape shall be preserved in its natural state insofar as practicable, by minimizing tree and soil removal and any grade changes shall be in keeping with the general appearance of neighboring developed areas.

The site is fully developed. No landscaping exists on the site. This standard is not applicable. The Board finds this standard is met.

EDR-2 Relation of the Building to the Environment: Proposed development shall be related harmoniously to the terrain and to the use, scale and architecture of the existing buildings in the vicinity that have functional or visible relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing so as to reduce the effect of shadows on the abutting property in an R-1 or R-2 district or on public open space.

The applicant proposes that the façade will be completely rebuilt, with operable windows to create a café atmosphere on the plaza during warm weather. The applicant intends to pursue a permit for outdoor seating, as well. These are consistent with the design of the plaza for pedestrian use. The Board finds this standard has been met.

EDR-3 Open Space: All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing by the site or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility and facilitate maintenance.

The property was constructed in the 1920s, prior to the adoption of zoning. No open space exists on site. The Board finds this standard is met.

EDR-4 Circulation: With respect to vehicular and pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 8.13 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.

The additional seating proposed creates a demand for additional parking which cannot be provided on-site. The use of parking at Town-owned parking lots is allowed by Special Permit to meet the parking requirement under section 8.11 of the zoning bylaw. It is not known how many existing Arlington Center businesses have been allowed to meet their parking requirements at Town owned lots by Special Permit, nor how other Broadway Plaza and Arlington Center businesses not subject to a Special Permit, account for how they meet parking demand.

The applicant provided information on existing parking supply and utilization within 1000 feet of 319 Broadway Plaza through a May, 2013 memorandum by the Arlington Transportation Advisory Committee, and an August 2013 report on parking use and capacity prepared by Howard Stein Hudson. The Board considered parking capacity in Town owned-lots within 1,000 feet of 319 Broadway, including Broadway Plaza, Russell Common lot and all of the Railroad lot, considering part of the Railroad lot was within the radius considered. With this information, and with the applicant's commitment and Board requirements in the Special Conditions below, to manage and restrict parking demand by employees and patrons, the Board finds this standard has been met.

EDR-5 surface water drainage and EDR-6 utility service

No exterior construction is proposed, and no change is proposed to existing approved stormwater conditions. The Board finds this standard has been met.

EDR-6 Utilities Service: Electric, telephone, cable, TV, and other such lines of equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.

The proposed facility will require electrical service. A dumpster will be located at the rear of the building. The Board finds this standard has been met.

EDR-7 Advertising Features: The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties. The sign plan provided appears to meet the sign bylaw. The sign lighting will be down-lit from above the sign. The Board finds this standard has been met.

EDR-8 Special Features: Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.

Specifications for the kitchen ventilation system are provided. Loading will be off-street, not on the residential streets. The Board finds this standard is met.

EDR-9 Safety: With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.

The restaurant must meet all relevant health and safety, fire, and building codes, and this Special Permit is granted contingent on compliance with all codes. The Board finds this standard has been met.

EDR-10 Heritage: With respect to Arlington's heritage, removal or disruption of historic, traditional, or significant uses, structures or architectural elements shall be minimized insofar as practical whether these exist on the site or on adjacent properties.

The building is in a National Register Historic District, however little or no evidence remains of any original architectural detail. The Board finds this standard is met.

EDR-11 Microclimate: With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard surface, ground coverage or the installation of machinery which emits heat, vapor or fumes shall endeavor to minimize insofar as practicable, any adverse impacts on light, air and water resources or on noise and temperature levels of the immediate environment.

No new structures, new hard surface, ground coverage or new machinery emitting heat, vapor, sound or light that could affect the microclimate is proposed. The applicant proposes that clients of the private function room may employ audio equipment of their own temporary procurement, but no public address system, amplification, or audio system is proposed to be installed in the business. Acoustic performers may be featured by the applicant in the dining room. The Board finds this standard is met.

EDR-12 Sustainable Building and Site Design: Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project.

Section 10.11a-6 The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health, morals, or welfare. The restaurant will seek a liquor license from the Board of Selectmen. The prior restaurant had operated with a liquor license. Common Ground will seek an entertainment license from the Board of Selectmen. The public has expressed, through the current master planning process, an interest in increasing night-life in Arlington. At the same time, residential property owners directly behind and across Massachusetts Avenue from the location are entitled to quiet enjoyment of their homes. For this reason, the applicant proposed specifications for sound-proofing the function room to mitigate potential sound impacts associated with musical entertainment on residential abutters. The Board finds this standard has been met.

Section 10.11a-7 The requested use will not, by its addition to a neighborhood, cause an excess of that particular use that could be detrimental to the character of said neighborhood. Cafés and restaurants have operated at this address since 1994. The Board finds this standard is met.

DECISION

The Board finds that the proposal is an appropriate re-use of the property, and grants the special permits subject to the following general and special conditions:

General Conditions

1. The final plans and specifications approved by the Board for this permit shall be the final plans and specifications submitted to the Building Inspector of the Town of Arlington in connection with this application for building permits. There shall be no substantial or material deviation during construction from the approved plans and specifications without the express written approval of the Arlington Redevelopment Board. Approved final design and record plans must also be submitted to Inspectional Services and to the Engineering Division.
2. Snow removal from all parts of the site, as well as from any abutting public sidewalks, shall be the responsibility of the owner or occupant and shall be accomplished in accordance with the Town bylaws.
3. The Building Inspector is hereby notified that he is to monitor the site and should proceed with appropriate enforcement procedures at any time he determines that violations are present. The Inspector of Buildings shall proceed under Section 10.09 of the Zoning Bylaw, pursuant to the provisions of Chapter 40A Section 21D, and institute non-criminal complaints. If necessary, the Inspector of Buildings may institute appropriate criminal action also in accordance with Section 10.09.
4. Subsequent to the end of all applicable appeal periods and prior to the issuance of a Building Permit, the Applicant shall record this Decision in the Middlesex County South District Registry of Deeds and shall provide the Board, and the Building Inspector with a copy of this Decision endorsed with the applicable recording information.
5. The Board maintains continuing jurisdiction over this permit, and may, after a duly advertised public hearing, attach other conditions, including but not limited to, reasonably restricting the retail opening hours, or it may modify these conditions as it deems reasonably appropriate to protect the public interest and welfare.

Special Conditions

1. The 90 seats in the rear of the space as shown in the final plans shall be used solely for functions and special events and not for day-to-day restaurant seating without the express written approval of the Arlington Redevelopment Board through the reopening of this special permit.
2. Two onsite parking spaces shall be maintained or, to the extent such spaces are not available to the applicant, two private spaces shall be maintained by the applicant in the vicinity for the use of employees or patrons.
3. The applicant shall comply with the following parking mitigation actions:

out, to prevent fire hazards. These filter which are dishwasher-safe, clean easily with soap and water and will be cleaned on a weekly basis.

7. All deliveries to the premises shall be done off-street, and at all times in accordance with the applicable noise and other Bylaws.

8. The applicant shall submit a LEED checklist to the Town's Director of Planning no later than the date of issuance of the Building Permit for the premises.

- a. Applicant will feature a "PARKING" drop down tab on its' website directing customers, with a map, to the Russell Common and Railroad parking lots. The directions will be specific and advise customers not to park, or to seek parking, on Compton, Alton or Belton Streets.
 - b. All emails from applicant will feature a "where to park" legend below the signature line with the same information as and a "link" to the drop down tab on its website directing customers to the Russell Common and Railroad parking lots.
 - c. All emails from applicant will feature a "where to park" legend below the signature line with the same information as and a "link" to the drop down tab on its website directing customers to the Russell Commons and Railroad parking lots.
 - d. Applicant's brochures, pamphlets, takeout and website printable menus will feature a "where to park" section, with a map, directing customers to the Russell Common and Railroad parking lots and advise customers not to park, or to seek parking, on Compton, Alton or Belton Streets.
 - e. All function/events room material will also include the "where to park" section and the website address of the "PARKING" drop down tab.
 - f. The proposed menu board will also have a section upon it directing customers, with a map, to the Russell Common and Railroad parking lots. The directions will be specific and advise customers not to park, or to seek parking, on Compton, Alton or Belton Streets.
4. The applicant shall comply with the following sound mitigation actions:
 - a. The rear function space shall have all sound proofing shown in the document presented to the Board dated July 12, 2013 *Plan Sheet A300 by Connor Architecture*.
 - b. No amplified music, with the exception of standard restaurant background music, will be provided in the front/main restaurant room. No karaoke will be conducted in the front/main restaurant room. There will be no outdoor speakers.
 - c. Non-recyclable refuse from the restaurant will be disposed of in a dumpster, with a plastic cover, in the rear of the building as far from the property line, and close to the neighboring restaurants dumpsters, as possible. If feasible, the same trash pickup company as the neighboring restaurants will be used, and that company will be instructed to keep pickup times in accordance with Arlington noise bylaws, Title V - Article 12: Noise Abatement.
 - d. The abutting neighbors on Alton and Belton Streets will be provided a letter with contact information for the applicant so that they will be able to directly contact him if they have any concerns regarding sound, odors or delivery issues.
5. All lighting for signage shall be downlighting as shown in the document presented to the Board dated July 12, 2013 *Plan Sheet A200 by Connor Architecture*.
6. Applicant's kitchen exhaust system will utilize welded stainless steel 1 ½ inch thick hood filters to ensure that solids and grease are trapped and deposited directly onto baffles and drained